

Table 1: Anticipated Permits or Reviews for the Project in South Dakota

AGENCY	PERMIT	AGENCY ACTION	ESTIMATED APPLICATION SUBMITTAL DATE
Federal			
U.S. Army Corps of Engineers (USACE), Omaha District - South Dakota Regulatory Office	Sections 404 Clean Water Act for discharge of fill in water of the U.S.; Section 10 Rivers and Harbors Act Permit for crossing navigable waters of the U.S.	Authorization of discharge of fill material into waters of the U.S. and structures crossing navigable waters	Submitted October 2022 Addendum Submitted March 2023
	Section 408 Review	<u>USACE determined there are no USACE interest properties, no review required</u>	<u>NA</u>
U.S. Fish and Wildlife Service	Section 7 Consultation - Endangered Species Act	Federally listed threatened and endangered species affect determination review and concurrence.	October 2022; <u>BA to be submitted Q3 2023</u>
State Historic Preservation Officer	Section 106 Consultation - National Historic Preservation Act	Effects Determination and associated mitigation.	Initial review of 2021 survey results February 2022; <u>Updated memo provided to SHPO week of 8/28/23 for route and survey status; full report to be completed after survey season in 2023.</u>
Pipeline Hazardous Materials Safety Administration (PHMSA)	49 CFR Part 195	Integrity Management Plan and Emergency Response Plan	Prior to operations
Federal Highways Administration	Crossing Permit	Issuance of permits for the crossing of federally funded highways.	<u>Q3 2023</u>
State			
South Dakota Department of Agriculture and Natural Resources	401 Water Quality Certification (WQC)	Issuance of certification <u>occurs with USACE NWP 58 issuance.</u>	<u>Issued with USACE NWP 58</u>
	Surface Water Discharge General Permit for Temporary Discharge Activities and a Temporary Water Rights Use Permit (SDG070000)	Issuance of permit for hydrostatic test water discharge and construction dewatering to waters of the State, and Temporary Water Use Permit.	<u>Q1//Q2 2024</u>
	Surface Water Discharge General Permit for Stormwater Discharges Associated with	Issuance of permits for discharges associated with activity that causes land	<u>Q1/Q2 2024</u>

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South Dakota Department of Transportation	Construction Activities Permit (SDR100000)	disturbance equal to or greater than one acre.	
	Standard Water Rights Permit	Review and make a recommendation for appropriation of water from a state jurisdictional waterbody during construction activities if authorization is not issued under the Temporary Water Rights Use Permit.	<u>Q1/Q2 2024</u>
	Application for Permit to Occupy Right of Way	Issuance of permits to occupy right of way.	<u>Q3 2023</u>
South Dakota Department of Game, Fish, and Parks	State Listed Species Review	Review and authorization.	<u>Concurrent with USFWS BA review</u>
Local			
County Road Departments	Crossing Permits	Issuance of permits for crossing county roads.	<u>Q1/Q2 2024</u>
County and Local Authorities	Road Haul Agreements	Negotiated agreements between counties and the Applicant.	<u>Q1/Q2 2024</u>
	Floodplain, Conditional Use, and building permits	Review and approval.	<u>Q1 2024</u>
	<u>Special or Conditional Use Permits, where required</u>	<u>Review and approval.</u>	<u>Q1 2024</u>
<u>Municipal Water Use Agreements (if required)</u>	<u>Negotiated agreements between municipalities and the Applicant.</u>	<u>Q2 2024</u>	

Table 2: Project Facilities in South Dakota

ID	FACILITY TYPE ¹	LENGTH (miles) ²	NOMINAL DIAMETER (inches)	COUNTY	BEGINNING MILEPOST	END MILEPOST	ASSOCIATED PIPELINE
Pipelines							
NDM-106	Main Line	<u>26.14</u>	24	McPherson	0.00	<u>26.14</u>	NA
NDT-211	Trunk Line	3.00	12	Brown	<u>88.78</u>	<u>91.78</u>	NA
NDT-211	Trunk Line	<u>21.96</u>	12	McPherson	<u>91.78</u>	<u>113.74</u>	NA
SDL-320	Lateral	<u>19.78</u>	6	Sully	0.00	<u>19.78</u>	NA
SDL-320	Lateral	<u>18.82</u>	6	Hyde	<u>19.78</u>	<u>38.60</u>	NA
SDL-320	Lateral	<u>31.36</u>	6	Hand	<u>38.60</u>	<u>69.96</u>	NA
SDL-320	Lateral	<u>10.39</u>	6	Spink	69.96	<u>80.34</u>	NA
SDL-335	<u>Lateral</u>	0.43	4	Edmunds	0.00	<u>0.43</u>	NA
SDL-336	<u>Lateral</u>	<u>0.54</u>	4	Spink	0.00	<u>0.54</u>	NA
SDM-104	Main Line	<u>23.32</u>	24	Lincoln	<u>27.19</u>	<u>50.52</u>	NA
SDM-104	Main Line	<u>3.07</u>	24	Turner	<u>50.52</u>	<u>53.58</u>	NA
SDM-104	Main Line	<u>27.61</u>	24	Minnehaha	<u>53.58</u>	<u>81.20</u>	NA
SDM-104	Main Line	2.24	24	McCook	<u>81.20</u>	<u>83.43</u>	NA
SDM-104	Main Line	18.90	24	Lake	<u>83.43</u>	<u>102.33</u>	NA
SDM-104	Main Line	<u>15.38</u>	24	Miner	<u>102.33</u>	<u>117.71</u>	NA
SDM-104	Main Line	<u>29.43</u>	24	Kingsbury	<u>117.71</u>	<u>147.14</u>	NA
SDM-104	Main Line	<u>4.12</u>	24	Beadle	<u>147.14</u>	<u>151.26</u>	NA
SDM-105	Main Line	<u>7.39</u>	24	Beadle	0.00	7.39	NA
SDM-105	Main Line	<u>51.80</u>	24	Spink	<u>7.39</u>	<u>59.19</u>	NA
SDM-105	Main Line	<u>15.10</u>	24	Brown	59.19	<u>74.30</u>	NA
SDM-105	Main Line	<u>22.16</u>	24	Edmunds	74.30	<u>96.46</u>	NA
SDM-105	Main Line	<u>12.11</u>	24	McPherson	<u>96.46</u>	<u>108.57</u>	NA
SDT-206	Trunk Line	<u>14.51</u>	6	Lake	0.00	<u>14.51</u>	NA
SDT-207	Trunk Line	<u>23.77</u>	6	Beadle	0.00	<u>23.77</u>	NA
SDT-208	Trunk Line	<u>12.84</u>	6	Codington	0.00	<u>12.84</u>	NA
SDT-208	Trunk Line	<u>13.17</u>	6	Hamlin	<u>12.84</u>	<u>26.00</u>	NA
SDT-208	Trunk Line	22.01	6	Clark	<u>26.00</u>	<u>48.01</u>	NA
SDT-208	Trunk Line	2.54	8	Beadle	<u>48.01</u>	<u>50.56</u>	NA
SDT-209	Trunk Line	<u>12.41</u>	8	Spink	0.00	<u>12.41</u>	NA
SDT-210	Trunk Line	<u>10.13</u>	6	Brown	0.00	<u>10.13</u>	NA
SDT-210	Trunk Line	1.81	6	Edmunds	<u>10.13</u>	<u>11.94</u>	NA
Pump Stations							
<u>Hartford</u> (MPS-04)	Pump Station	NA	NA	Minnehaha	<u>69.57</u>	<u>69.57</u>	SDM-104
<u>Manchester</u> (MPS-05)	Pump Station	NA	NA	Beadle	<u>0.01</u>	<u>0.01</u>	SDM-105

Table 2: Project Facilities in South Dakota

ID	FACILITY TYPE ¹	LENGTH (miles) ²	NOMINAL DIAMETER (inches)	COUNTY	BEGINNING MILEPOST	END MILEPOST	ASSOCIATED PIPELINE
Ashton (MPS-06)	Pump Station	NA	NA	Brown	71.73	71.73	SDM-105
Leola (MPS-07)	Pump Station	NA	NA	McPherson	0.07	0.07	NDM-106
Mainline Valves							
MLV-106-01*	MLV	NA	NA	McPherson	0.12	0.12	NDM-106
MLV-106-01-A	MLV	NA	NA	McPherson	9.45	9.45	NDM-106
MLV-106-02	MLV	NA	NA	McPherson	15.26	15.26	NDM-106
MLV-211-09	MLV	NA	NA	Brown	89.70	89.70	NDT-211
MLV-211-09-A	MLV	NA	NA	McPherson	103.95	103.95	NDT-211
MLV-211-10*	MLV	NA	NA	McPherson	113.61	113.61	NDT-211
MLV-320-01*	MLV	NA	NA	Sully	0.00	0.00	SDL-320
MLV-320-01-A	MLV	NA	NA	Sully	3.59	3.59	SDL-320
MLV-320-02	MLV	NA	NA	Hyde	22.87	22.87	SDL-320
MLV-320-03	MLV	NA	NA	Hand	42.63	42.63	SDL-320
MLV-320-04	MLV	NA	NA	Hand	61.34	61.34	SDL-320
MLV-320-05*	MLV	NA	NA	Spink	80.34	80.34	SDL-320
MLV-335-01*	MLV	NA	NA	Edmunds	0.00	0.00	SDL-335
MLV-335-02*	MLV	NA	NA	Edmunds	0.41	0.41	SDL-335
MLV-336-01*	MLV	NA	NA	Spink	0.00	0.00	SDL-336
MLV-336-02*	MLV	NA	NA	Spink	0.53	0.53	SDL-336
MLV-104-06	MLV	NA	NA	Lincoln	27.46	27.46	SDM-104
MLV-104-07	MLV	NA	NA	Lincoln	43.61	43.61	SDM-104
MLV-104-07-A	MLV	NA	NA	Lincoln	50.50	50.50	SDM-104
MLV-104-08-B	MLV	NA	NA	Minnehaha	62.02	62.02	SDM-104
MLV-104-08*	MLV	NA	NA	Minnehaha	69.53	69.53	SDM-104
MLV-104-08-A*	MLV	NA	NA	Minnehaha	69.61	69.61	SDM-104
MLV-104-09*	MLV	NA	NA	Lake	85.56	85.56	SDM-104
MLV-104-09-A	MLV	NA	NA	Lake	94.40	94.40	SDM-104
MLV-104-10	MLV	NA	NA	Lake	100.41	100.41	SDM-104
MLV-104-10-A	MLV	NA	NA	Miner	113.55	113.55	SDM-104
MLV-104-11	MLV	NA	NA	Kingsbury	118.84	118.84	SDM-104
MLV-104-11-A	MLV	NA	NA	Kingsbury	130.83	130.83	SDM-104

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MLV-104-11-B*	MLV	NA	NA	Beadle	150.61	150.61	SDM-104
MLV-104-12*	MLV	NA	NA	Beadle	151.21	151.21	SDM-104
MLV-104-13*	MLV	NA	NA	Beadle	0.06	0.06	SDM-105
MLV-105-01-C	MLV	NA	NA	Spink	8.42	8.42	SDM-105
MLV-105-01	MLV	NA	NA	Spink	18.88	18.88	SDM-105
MLV-105-01-B	MLV	NA	NA	Spink	27.27	27.27	SDM-105
MLV-105-01-A*	MLV	NA	NA	Spink	35.78	35.78	SDM-105
MLV-105-03	MLV	NA	NA	Spink	51.32	51.32	SDM-105
MLV-105-04	MLV	NA	NA	Spink	53.32	53.32	SDM-105
MLV-105-05	MLV	NA	NA	Brown	62.70	62.70	SDM-105
MLV-105-06	MLV	NA	NA	Brown	65.58	65.58	SDM-105
MLV-105-02*	MLV	NA	NA	Brown	71.73	71.73	SDM-105
MLV-105-07*	MLV	NA	NA	Edmunds	81.83	81.83	SDM-105
MLV-105-08	MLV	NA	NA	Edmunds	88.24	88.24	SDM-105
MLV-105-08-A	MLV	NA	NA	McPherson	101.07	101.07	SDM-105
MLV-105-09*	MLV	NA	NA	McPherson	108.56	108.56	SDM-105
MLV-206-01*	MLV	NA	NA	Lake	0.00	0.00	SDT-206
MLV-206-02	MLV	NA	NA	Lake	2.95	2.95	SDT-206
MLV-206-03	MLV	NA	NA	Lake	4.65	4.65	SDT-206
MLV-206-04*	MLV	NA	NA	Lake	14.50	14.50	SDT-206
MLV-207-01*	MLV	NA	NA	Beadle	0.00	0.00	SDT-207
MLV-207-01-A	MLV	NA	NA	Beadle	3.91	3.91	SDT-207
MLV-207-02	MLV	NA	NA	Beadle	8.97	8.97	SDT-207
MLV-207-03	MLV	NA	NA	Beadle	12.86	12.86	SDT-207
MLV-207-04*	MLV	NA	NA	Beadle	23.73	23.73	SDT-207
MLV-208-01*	MLV	NA	NA	Codington	0.00	0.00	SDT-208
MLV-208-01-C	MLV	NA	NA	Codington	8.54	8.54	SDT-208
MLV-208-01-A	MLV	NA	NA	Hamlin	13.38	13.38	SDT-208
MLV-208-01-B	MLV	NA	NA	Hamlin	21.13	21.13	SDT-208
MLV-208-02-A	MLV	NA	NA	Clark	27.47	27.47	SDT-208
MLV-208-03	MLV	NA	NA	Clark	40.79	40.79	SDT-208
MLV-208-04*	MLV	NA	NA	Beadle	50.54	50.54	SDT-208

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ID	FACILITY TYPE ¹	LENGTH (miles) ²	NOMINAL DIAMETER (inches)	COUNTY	BEGINNING MILEPOST	END MILEPOST	ASSOCIATED PIPELINE
MLV-209-01	MLV	NA	NA	Spink	1.75	1.75	SDT-209
MLV-209-02*	MLV	NA	NA	Spink	12.40	12.40	SDT-209
MLV-210-01*	MLV	NA	NA	Brown	0.00	0.00	SDT-210
<u>MLV-210-01-A</u>	<u>MLV</u>	<u>NA</u>	<u>NA</u>	<u>Brown</u>	<u>7.04</u>	<u>7.04</u>	<u>SDT-210</u>
MLV-210-02*	MLV	NA	NA	Edmunds	<u>11.91</u>	<u>11.91</u>	SDT-210
Launcher-Receivers Sites							
PLR-01	Launcher-Receiver	NA	NA	Edmunds	<u>11.93</u>	<u>11.93</u>	SDT-210
PLR-02	Launcher-Receiver	NA	NA	Spink	<u>12.41</u>	<u>12.41</u>	<u>SDT-209</u>
PLR-04	Launcher-Receiver	NA	NA	Beadle	<u>150.63</u>	<u>150.63</u>	<u>SDM-104</u>
PLR-05	Launcher-Receiver	NA	NA	Lake	<u>85.56</u>	<u>85.56</u>	SDM-104
PLR-15	Launcher-Receiver	NA	NA	Edmunds	<u>0.41</u>	<u>0.41</u>	SDL-335
PLR-20	Launcher-Receiver	NA	NA	Spink	<u>0.54</u>	<u>0.54</u>	SDL- <u>336</u>
<u>DELW-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Lake</u>	<u>0.00</u>	<u>0.00</u>	<u>SDT-206</u>
<u>GLEA-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Brown</u>	<u>0.00</u>	<u>0.00</u>	<u>SDT-210</u>
<u>GLEH-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Beadle</u>	<u>0.00</u>	<u>0.00</u>	<u>SDT-207</u>
<u>GLEM-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Edmunds</u>	<u>0.00</u>	<u>0.00</u>	<u>SDL-335</u>
<u>GLEW-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Codington</u>	<u>0.00</u>	<u>0.00</u>	<u>SDT-208</u>
<u>REFO-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Sully</u>	<u>0.00</u>	<u>0.00</u>	<u>SDL-320</u>
<u>RFER-LR</u>	<u>Launcher-Receiver</u>	<u>NA</u>	<u>NA</u>	<u>Spink</u>	<u>0.00</u>	<u>0.00</u>	<u>SDL-336</u>

Notes:

There are 44 temporary access roads for construction and 58 permanent access roads for operation totaling 8.39 miles.

¹ Main lines are pipelines that carry CO₂ from trunk lines to the sequestration facility.

Trunk lines are pipelines that carry CO₂ from ethanol plants to mainlines or from lateral pipelines to the mainline.

Laterals are pipelines that carry CO₂ from ethanol plants to trunklines.

² Lengths are rounded for presentation purposes.

*Indicates valves located within pump stations, launcher/receivers, or capture facilities.

Table 3: Land Requirements for the Project (Acres)		
FACILITY	CONSTRUCTION ¹	OPERATIONS ²
Pipelines	<u>5,873.4</u>	<u>2,890.1</u>
Pump Stations	<u>8.9</u>	<u>8.9</u>
MLVs	<u>2.3</u>	<u>2.3</u>
Launcher-Receivers	<u>3.1</u>	<u>3.1</u>
Access Roads	<u>29.9</u>	<u>11.7</u>
ATWS	<u>523.6</u>	<u>0.00</u>
TOTAL	<u>6,441.2</u>	<u>2,916.1</u>

Notes:

¹ Acreage for construction includes both construction (temporary) and operations (permanent) footprint.

² Acreage for operations includes only permanent footprint.

Table 4: Collocation of Pipelines in South Dakota

ROUTE	PIPELINE LENGTH (miles)	COLLOCATION LENGTH (miles)	PERCENT COLLOCATED
SDL-320	80.34	3.20	3.98%
SDL-335	0.43	0.15	34.74%
SDL-336	0.54	0.00	0.00%
NDT-211	24.96	2.18	8.72%
SDT-206	14.51	1.78	12.25%
SDT-207	23.77	2.65	11.14%
SDT-208	50.56	27.35	54.10%
SDT-209	12.41	0.27	2.21%
SDT-210	11.94	4.26	35.71%
SDM-104	124.06	60.95	49.12%
SDM-105	108.57	8.23	7.58%
NDM-106	26.14	5.45	21.87%
ALL PIPELINES	478.23	116.47	24.35%

Table 5: Route Variance Log ¹

ROUTE ID	MILEPOST START	MILEPOST STOP	LENGTH CHANGE (+/- IN FT)	REASON FOR CHANGE
NDM-106	0.09	0.39	203.1	Avoidance of landowner's property
NDM-106	0.58	2.02	169.3	Avoidance of sensitive resources and wetlands. Adjustment of route to HDD under sensitive resources
NDM-106	2.36	2.85	-27.6	Adjusted route to remain in survey corridor
NDM-106	5.66	5.77	10.8	Adjusted route for road crossing
NDM-106	7.24	8.30	-368.3	Adjustment of route to HDD under sensitive resources
NDM-106	8.72	8.99	66.0	Avoidance of sensitive resources. Relocated temporary workspace.
NDM-106	9.45	9.45	0.0	Addition of MLV 106-01-A to protect Long Lake Other Populated Area (OPA)
NDM-106	9.86	10.30	14.9	Avoidance of sensitive resources. Modification to flatten PIs
NDM-106	10.81	11.75	1,028.4	Avoidance of sensitive resources and protected wetlands
NDM-106	11.89	12.29	33.6	Avoidance of sensitive resources
NDM-106	15.29	16.46	435.2	Avoidance of sensitive resources and undisturbed areas
NDM-106	17.13	17.84	358.0	Avoidance of sensitive resources and protected wetlands
NDM-106	20.73	21.90	-2.7	Avoidance of sensitive resources and adjustment for HDD crossing
NDM-106	22.23	22.55	71.3	Avoidance of sensitive resources
NDT-211	104.75	105.06	101.7	Addition of bore to avoid sensitive resources
NDT-211	105.28	106.20	499.0	Avoidance of sensitive resources and protected wetlands. Engineering modifications to better pipeline route.
NDT-211	106.27	107.38	22.4	Avoidance of sensitive resources
SDL-320	42.57	42.60	8.6	Modification to remove workspace from within the roadside fence
SDM-104	45.37	45.68	1.4	Moved centerline away from existing pipeline
SDM-104	46.26	46.32	0.0	Addition of HDD to avoid impacts to waterline

Table 5: Route Variance Log ¹

ROUTE ID	MILEPOST START	MILEPOST STOP	LENGTH CHANGE (+/- IN FT)	REASON FOR CHANGE
<u>SDM-104</u>	<u>46.66</u>	<u>46.86</u>	<u>-0.5</u>	<u>Moved centerline away from existing pipeline</u>
<u>SDM-104</u>	<u>48.86</u>	<u>49.12</u>	<u>-21.8</u>	<u>Moved centerline away from existing pipeline</u>
<u>SDM-104</u>	<u>50.50</u>	<u>50.50</u>	<u>0.0</u>	<u>Addition of MLV MLB-104-07-A to protect OPAs near Sioux Falls</u>
<u>SDM-104</u>	<u>51.99</u>	<u>52.13</u>	<u>13.0</u>	<u>Engineering modification to better the crossing angle</u>
<u>SDM-104</u>	<u>53.55</u>	<u>54.12</u>	<u>0.9</u>	<u>Moved centerline away from existing pipeline</u>
<u>SDM-104</u>	<u>56.09</u>	<u>56.35</u>	<u>1.1</u>	<u>Moved workspace away from existing pipeline</u>
<u>SDM-104</u>	<u>58.90</u>	<u>59.00</u>	<u>33.9</u>	<u>Adjust temporary workspace. Engineering modification to revise crossing angle.</u>
<u>SDM-104</u>	<u>59.65</u>	<u>59.85</u>	<u>9.7</u>	<u>Moved centerline and workspace away from existing pipeline</u>
<u>SDM-104</u>	<u>62.91</u>	<u>63.58</u>	<u>-12.4</u>	<u>Engineering modification to straighten pipeline and remove a PI.</u>
<u>SDM-104</u>	<u>64.22</u>	<u>64.56</u>	<u>-23.1</u>	<u>Engineering modification to straighten pipeline.</u>
<u>SDM-104</u>	<u>65.95</u>	<u>66.33</u>	<u>0.0</u>	<u>Workspace modification to avoid impacts to wetland.</u>
<u>SDM-104</u>	<u>68.45</u>	<u>68.48</u>	<u>10.6</u>	<u>Adjustment for bore crossing</u>
<u>SDM-104</u>	<u>74.61</u>	<u>74.76</u>	<u>38.3</u>	<u>Engineering modification to adjust crossing angle</u>
<u>SDM-104</u>	<u>76.83</u>	<u>77.56</u>	<u>2.0</u>	<u>Adjust temporary workspace to avoid impacts to wetlands</u>
<u>SDM-104</u>	<u>83.64</u>	<u>83.99</u>	<u>0.5</u>	<u>Moved workspace away from existing pipeline</u>
<u>SDM-104</u>	<u>85.55</u>	<u>85.58</u>	<u>-0.1</u>	<u>Addition of additional temporary workspace for road crossing</u>
<u>SDM-104</u>	<u>91.16</u>	<u>92.46</u>	<u>-0.8</u>	<u>Moved centerline away from existing pipeline</u>
<u>SDM-104</u>	<u>94.40</u>	<u>94.40</u>	<u>0.0</u>	<u>Addition of MLV-104-09-A to protect Winfred OPA</u>
<u>SDM-104</u>	<u>95.36</u>	<u>95.48</u>	<u>42.1</u>	<u>Moved workspace away from existing pipeline. Engineering modification to revise crossing angle</u>

Table 5: Route Variance Log ¹

ROUTE ID	MILEPOST START	MILEPOST STOP	LENGTH CHANGE (+/- IN FT)	REASON FOR CHANGE
SDM-104	107.15	107.47	15.2	Engineering modification to revise crossing angle
SDM-104	109.01	109.35	8.0	Adjustment for bore crossing
SDM-104	112.73	112.82	14.7	Adjustment for bore crossing
SDM-104	113.55	113.55	0.0	Addition of MLV-104-10-A to protect Colony OPA
SDM-104	124.75	124.98	-1.2	Moved centerline and workspace away from existing pipeline
SDM-104	125.35	125.38	5.2	Adjustment for bore crossing
SDM-104	126.65	126.85	-3.3	Moved centerline and workspace away from existing pipeline
SDM-104	127.01	127.19	11.6	Moved centerline and workspace away from existing pipeline
SDM-104	127.41	128.22	4.1	Moved centerline and workspace away from existing pipeline
SDM-104	129.48	129.76	0.3	Moved centerline and workspace away from existing pipeline
SDM-104	134.68	134.71	1.5	Adjustment for bore crossing
SDM-104	138.04	138.10	3.0	Engineering modification to better road crossing angle
SDM-104	143.17	143.18	7.4	Adjustment for bore crossing
SDM-104	144.93	144.97	19.3	Adjustment for bore crossing
SDM-104	145.87	147.13	9.5	Adjustment for bore crossing
SDM-104	150.61	150.65	32.2	Route modifications within the launcher/receiver facility to accommodate the new MLV
SDM-105	8.42	8.42	0.0	Addition of MLV-105-01-C to protect OPA
SDM-105	10.16	10.30	22.1	Adjustment for bore crossing
SDM-105	22.85	22.98	18.3	Adjustment for bore crossing
SDM-105	27.27	27.27	0.0	Addition of MLV-105-01-B to protect Camrose Colony OPA
SDM-105	36.49	36.52	2.8	Adjustment for bore crossing
SDM-105	36.54	36.57	0.9	Adjustment for bore crossing
SDM-105	37.35	37.44	11.4	Adjustment for bore crossing
SDM-105	41.05	41.12	5.7	Adjustment for bore crossing

Table 5: Route Variance Log ¹

ROUTE ID	MILEPOST START	MILEPOST STOP	LENGTH CHANGE (+/- IN FT)	REASON FOR CHANGE
SDM-105	42.28	42.45	89.4	Avoidance of sensitive resources
SDM-105	43.09	43.51	-4.0	Engineering modification to straighten centerline and avoid a power pole
SDM-105	51.33	53.36	-104.1	Avoidance of impacts to sensitive features
SDM-105	53.67	53.74	4.4	Adjustment for bore crossing
SDM-105	58.19	58.26	4.6	Adjustment for bore crossing
SDM-105	60.64	62.06	-810.7	Reduction of route length
SDM-105	63.57	63.63	0.7	Adjustment for bore crossing
SDM-105	66.69	67.25	23.0	Modification to flatten PIs
SDM-105	71.63	71.79	1.8	Modification to accommodate pump station layout
SDM-105	75.87	75.89	0.5	Adjustment for bore crossing
SDM-105	78.18	78.28	3.4	Adjustment for bore crossing
SDM-105	84.06	84.20	5.1	Adjustment for bore crossing
SDM-105	87.80	88.22	-52.6	Adjustment to centerline to be within survey corridors
SDM-105	94.32	94.36	18.2	Adjustment for bore crossing
SDM-105	99.55	99.66	17.7	Adjustment for bore crossing
SDM-105	101.07	101.07	0.0	Addition of MLV-105-08-A to protect potential future OPA Deerfield Colony
SDT-206	14.49	14.51	68.9	Adjustment of pipeline due to launcher/receive facility modifications
SDT-207	3.91	3.91	0.0	Addition of MLV-207-01-A to protect Huron OPA
SDT-207	4.62	5.53	463.6	Modification of centerline due to landowner request
SDT-207	9.65	10.63	1.4	Adjustment of workspace to avoid impacts to protected wetland
SDT-208	0.03	0.27	-0.1	Adjustment of centerline due to modifications of launcher/receiver facility
SDT-208	8.54	8.54	0.0	Addition of MLV-208-01-C to protect Watertown OPA
SDT-208	14.53	14.64	20.3	Addition of temporary workspace

Table 5: Route Variance Log ¹

ROUTE ID	MILEPOST START	MILEPOST STOP	LENGTH CHANGE (+/- IN FT)	REASON FOR CHANGE
<u>SDT-208</u>	<u>14.84</u>	<u>15.03</u>	<u>6.3</u>	<u>Moved centerline away from existing pipeline. Addition of neckdown at wetland crossing and additional temporary workspace adjacent to wetland</u>
<u>SDT-208</u>	<u>19.66</u>	<u>19.84</u>	<u>-1.7</u>	<u>Moved centerline away from existing pipeline.</u>
<u>SDT-208</u>	<u>21.13</u>	<u>21.13</u>	<u>0.0</u>	<u>Addition of MLV-208-01-B to protect OPAs</u>
<u>SDT-208</u>	<u>26.91</u>	<u>27.07</u>	<u>-1.2</u>	<u>Moved centerline away from existing pipeline.</u>
<u>SDT-208</u>	<u>29.48</u>	<u>29.72</u>	<u>-13.6</u>	<u>Engineering modification to straighten centerline across existing pipeline</u>
<u>SDT-208</u>	<u>30.21</u>	<u>30.56</u>	<u>3.5</u>	<u>Moved centerline and workspace away from existing pipeline.</u>
<u>SDT-208</u>	<u>30.96</u>	<u>31.06</u>	<u>-5.7</u>	<u>Moved centerline away from road intersection and temporary workspace away from existing pipeline.</u>
<u>SDT-208</u>	<u>31.13</u>	<u>31.51</u>	<u>-2.6</u>	<u>Moved centerline away from intersection and moved to collocate with existing pipeline</u>
<u>SDT-208</u>	<u>39.00</u>	<u>39.35</u>	<u>-1.9</u>	<u>Moved centerline and workspace away from existing pipeline.</u>
<u>SDT-208</u>	<u>39.65</u>	<u>41.54</u>	<u>1.0</u>	<u>Moved centerline away from existing pipeline.</u>
<u>SDT-208</u>	<u>50.11</u>	<u>50.56</u>	<u>38.7</u>	<u>Modification to flatten PIs</u>
<u>SDT-210</u>	<u>3.39</u>	<u>3.83</u>	<u>12.7</u>	<u>Modification to flatten PIs</u>

¹ Variances between filed route on May 2, 2023 and current route as of August 23, 2023.

² MLV – Mainline Valve; HDD – Horizontal Directional Drill; OPA – Other Populated Area; PI – Point of Inflection

Table 6: Potential Soil Hazards Summary Table						
SOIL CHARACTERISTIC	CONSTRUCTION FOOTPRINT (Acres)			OPERATIONS FOOTPRINT (Acres)		
	PIPELINE	ABOVE GROUND FACILITIES	ACCESS ROADS	PIPELINE	ABOVE GROUND FACILITIES	ACCESS ROADS
Prime Farmland	<u>1,453.8</u>	<u>1.3</u>	<u>7.0</u>	<u>648.1</u>	<u>1.3</u>	<u>3.3</u>
Farmland of Statewide Importance	<u>1,703.1</u>	<u>9.7</u>	<u>2.4</u>	<u>759.9</u>	<u>9.7</u>	<u>1.0</u>
Prime Farmland if Irrigated or Drained	<u>1,246.2</u>	<u>0.7</u>	<u>5.9</u>	<u>562.3</u>	<u>0.7</u>	<u>2.5</u>
Hydric	<u>338.4</u>	<u>0.3</u>	2.6	<u>169.9</u>	<u>0.3</u>	<u>1.7</u>
Saline	<u>131.7</u>	0.1	<u>1.2</u>	<u>65.8</u>	0.1	<u>0.6</u>
Sodic	<u>76.3</u>	0.0	<u>0.5</u>	<u>36.1</u>	0.0	0.0
Shallow Bedrock/ Restrictive Layer	<u>9.0</u>	0.0	0.0	<u>4.1</u>	0.0	0.0
Poor Revegetation Potential	<u>987.0</u>	<u>1.5</u>	9.0	<u>462.4</u>	<u>1.5</u>	<u>3.4</u>
Severe Wind Erosion	<u>26.5</u>	<u>0.0</u>	<u>0.5</u>	<u>13.9</u>	<u>0.0</u>	<u>0.0</u>
Severe Water Erosion	<u>2,389.8</u>	<u>2.1</u>	<u>9.2</u>	<u>1,079.6</u>	<u>2.1</u>	<u>4.1</u>

Notes:

¹ Acres are rounded up for presentation purposes.

² Construction footprint includes impacts from both construction and operation.

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Aberdeen-Nahon silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>7</u>	<u>125.6</u>	<u>0.3</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDL-336</u>	<u>--</u>	<u>--</u>	<u>1.4</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-209</u>	<u>--</u>	<u>--</u>	<u>0.2</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDL-320</u>	<u>--</u>	<u>--</u>	<u>0.01</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDM-105</u>	<u>--</u>	<u>-</u>	<u>0.1</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-336</u>	<u>0</u>	<u>1,113.8</u>	<u>2.7</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 33, 34, 35 36, 38, 39 41, 42, 46, 48, 49 54, 55, 61, 62, 63, 64, 65</u>	<u>22,101.9</u>	<u>59.0</u>
<u>Aberdeen-Nahon silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>0, 11, 12</u>	<u>2,669.9</u>	<u>5.5</u>
<u>Aberdeen-Nahon-Hiel silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>27</u>	<u>277.0</u>	<u>0.9</u>
<u>Alcester silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>30</u>	<u>187.1</u>	<u>0.3</u>
<u>Alcester silty clay loam, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>50</u>	<u>32.2</u>	<u>0.2</u>
<u>Alcester silty clay loam, cool, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>79</u>	<u>250.3</u>	<u>0.8</u>
<u>Badger-Tonka silty clay loams, coteau, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>35</u>	<u>189.1</u>	<u>0.5</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Badus silty clay loam</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDT-206</u>	<u>--</u>	<u>--</u>	<u>0.9</u>
<u>Badus silty clay loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>85, 89</u>	<u>1,257.8</u>	<u>3.2</u>
<u>Badus silty clay loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>2, 12, 14</u>	<u>2,137.2</u>	<u>4.3</u>
<u>Bearden silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>50, 51</u>	<u>1,344.6</u>	<u>4.1</u>
<u>Bearden silt loam, saline, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>63, 54</u>	<u>335.7</u>	<u>1.1</u>
<u>Bearden-Huffton silt loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>65</u>	<u>269.9</u>	<u>1.3</u>
<u>Bearden-Tonka, silty substratum silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>51</u>	<u>904.6</u>	<u>3.0</u>
<u>Beotia silt loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>52, 57, 59, 60, 61</u>	<u>5,859.3</u>	<u>14.4</u>
<u>Beotia silt loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>9</u>	<u>834.4</u>	<u>1.9</u>
<u>Beotia-Rondell silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>60, 61</u>	<u>806.5</u>	<u>2.7</u>
<u>Beotia-Winship silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>50, 54, 58, 60, 61, 63</u>	<u>1,758.9</u>	<u>5.0</u>
<u>Beotia-Winship silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1, 2, 9, 11</u>	<u>1040.1</u>	<u>2.3</u>
<u>Beotia-Winship silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>29</u>	<u>207.9</u>	<u>0.5</u>
<u>Bon-Northville complex, nearly level</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>51, 65</u>	<u>414.6</u>	<u>2.0</u>
<u>Brookings silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>2, 3</u>	<u>297.9</u>	<u>0.9</u>
<u>Bryant silt loam, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>74, 75, 92, 95</u>	<u>3,454.3</u>	<u>9.0</u>
<u>Bryant silt loam, 6 to 9 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>74, 75, 95</u>	<u>559.6</u>	<u>1.8</u>
<u>Chancellor-Viborg silty clay loams</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Chancellor-Viborg silty clay loams</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>29, 30, 31, 34, 43, 44</u>	<u>2,262.4</u>	<u>6.3</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Chancellor-Wakonda-Tetonka complex</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>36, 37, 42</u>	<u>2,363.0</u>	<u>6.0</u>
<u>Colvin-Oldham silty clay loams</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>16, 21</u>	<u>890.4</u>	<u>1.5</u>
<u>Cubden silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>8, 9, 34</u>	<u>1,320.1</u>	<u>3.0</u>
<u>Cubden-Badger silty clay loams, coteau, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>7, 9, 15, 16, 18, 19, 20, 21, 22, 25, 26, 30, 35</u>	<u>9,110.1</u>	<u>20.7</u>
<u>Cubden-Tonka silty clay loams, coteau, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.08</u>
<u>Cubden-Tonka silty clay loams, coteau, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Cubden-Tonka silty clay loams, coteau, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>10, 11, 12, 13, 14, 15, 16, 18, 22, 13, 14, 17, 19, 32, 33, 36, 37, 38</u>	<u>14,744.1</u>	<u>32.9</u>
<u>Daglun-Rhoades loams, 0 to 6 percent slopes, shaly</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-210</u>	<u>8, 9</u>	<u>1,331.0</u>	<u>3.0</u>
<u>Dempster silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>		<u>0.02</u>
<u>Dempster silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDT-206</u>	<u>--</u>	<u>--</u>	<u>0.7</u>
<u>Dempster silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>MLV</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Dempster silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>27</u>	<u>750.0</u>	<u>2.4</u>
<u>Dempster silt loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>4, 6, 9</u>	<u>4,298.9</u>	<u>11.4</u>
<u>Dempster silt loam, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>28</u>	<u>1,352.2</u>	<u>2.8</u>
<u>Dempster silt loam, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>4, 5</u>	<u>1,984.8</u>	<u>4.3</u>
<u>Dempster-Delmont complex, 6 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>4, 5</u>	<u>477.1</u>	<u>1.2</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Dempster-Graceville silty clay loams, 1 to 5 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>53</u>	<u>357.6</u>	<u>0.9</u>
<u>Dovecreek silt loam, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>74</u>	<u>432.9</u>	<u>1.2</u>
<u>Dovecreek-Fluvaquents channeled, complex, 0 to 2 percent slopes, flooded</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>74</u>	<u>1,236.0</u>	<u>4.1</u>
<u>Dudley-Jerauld silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>54, 55, 67, 69</u>	<u>14,121.6</u>	<u>5.4</u>
<u>Dudley-Jerauld silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>143, 144</u>	<u>3,083.6</u>	<u>8.8</u>
<u>Dudley-Jerauld silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>8, 9, 10</u>	<u>6,795.2</u>	<u>17.8</u>
<u>Dudley-Jerauld silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-207</u>	<u>7</u>	<u>1,553.5</u>	<u>3.4</u>
<u>Dudley-Jerauld silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>46, 47</u>	<u>1,621.2</u>	<u>4.3</u>
<u>Durrstein silty clay loam, nearly level</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>58, 59, 61, 64, 65</u>	<u>3,821.6</u>	<u>6.6</u>
<u>Durrstein and Egas soils</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>18</u>	<u>835.6</u>	<u>1.4</u>
<u>Eakin-Raber complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDL-320</u>	<u>--</u>	<u>--</u>	<u>0.08</u>
<u>Eakin-Raber complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDL-320</u>	<u>--</u>	<u>--</u>	<u>0.04</u>
<u>Eakin-Raber complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDL-320</u>	<u>--</u>	<u>-</u>	<u>0.06</u>
<u>Eakin-Raber complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>0, 1, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15</u>	<u>8,390.6</u>	<u>40.6</u>
<u>Eakin-Raber complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 14, 15</u>	<u>8,430.4</u>	<u>40.2</u>
<u>Eckman-Zell very fine sandy loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.3</u>
<u>Eckman-Zell very fine sandy loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>1.2</u>
<u>Egan silty clay loam, 3 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>28, 29, 30, 32, 25, 42, 43, 45, 46, 47</u>	<u>8,691.5</u>	<u>22.8</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Egan silty clay loam, 6 to 11 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>88, 91, 93, 94, 95</u>	<u>3,281.0</u>	<u>8.2</u>
<u>Egan silty clay loam, 6 to 11 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>14</u>	<u>483.5</u>	<u>1.1</u>
<u>Egan-Beadle complex, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>88</u>	<u>1,060.1</u>	<u>2.7</u>
<u>Egan-Beadle complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDT-206</u>	<u>--</u>	<u>--</u>	<u>0.05</u>
<u>Egan-Beadle complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>84, 85, 86, 88, 89, 90, 91, 92, 93, 94, 95</u>	<u>9,090.6</u>	<u>24.7</u>
<u>Egan-Beadle complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>2, 3, 9, 10, 12, 13, 14</u>	<u>8,852.9</u>	<u>20.8</u>
<u>Egan-Beadle complex, 6 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>88, 89, 90, 92, 93, 94, 95</u>	<u>3,755.0</u>	<u>10.1</u>
<u>Egan-Beadle complex, 6 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>3, 14</u>	<u>904.7</u>	<u>1.9</u>
<u>Egan-Chancellor silty clay loams, 0 to 4 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>34, 37, 39, 42</u>	<u>4,860.0</u>	<u>12.7</u>
<u>Egan-Ethan complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>51, 53, 65, 67, 72, 78, 83, 84</u>	<u>11,958.4</u>	<u>33.5</u>
<u>Egan-Ethan complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>1, 2</u>	<u>1,008.5</u>	<u>2.6</u>
<u>Egan-Ethan complex, 5 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>81, 82, 83</u>	<u>3,272.2</u>	<u>8.4</u>
<u>Egan-Ethan complex, 6 to 9 percent slopes, eroded</u>	<u>0.43</u>	<u>MLV</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.004</u>
<u>Egan-Ethan complex, 6 to 9 percent slopes, eroded</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>94, 85, 86, 87, 90, 92, 93, 94, 95, 96</u>	<u>5,243.3</u>	<u>14.3</u>
<u>Egan-Ethan complex, 6 to 9 percent slopes, eroded</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>0, 1, 2, 3, 8, 9, 13, 14</u>	<u>6,234.3</u>	<u>14.6</u>
<u>Egan-Ethan-Trent complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>		<u>0.01</u>
<u>Egan-Ethan-Trent complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>MLV</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.06</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Egan-Ethan-Trent complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>54, 55, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 79, 80, 81</u>	<u>55,230.7</u>	<u>152.6</u>
<u>Egan-Shindler complex, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>29, 44, 45, 47, 48, 49, 50</u>	<u>10,518.7</u>	<u>30.7</u>
<u>Egan-Shindler complex, 6 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>30, 44, 48, 49, 50</u>	<u>2,917.6</u>	<u>9.6</u>
<u>Egan-Trent silty clay loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>56, 66, 74</u>	<u>2,442.1</u>	<u>5.6</u>
<u>Egan-Viborg silty clay loams, 0 to 3 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>84, 85, 86</u>	<u>2,750.6</u>	<u>6.6</u>
<u>Egan-Viborg silty clay loams, 0 to 3 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>7, 11, 13</u>	<u>5,961.4</u>	<u>14.2</u>
<u>Egan-Wentworth complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.03</u>
<u>Egan-Wentworth complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.05</u>
<u>Egan-Wentworth complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>94</u>	<u>384.2</u>	<u>1.1</u>
<u>Egan-Wentworth complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.01</u>
<u>Egan-Wentworth complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDM-104</u>	<u>--</u>	<u>:</u>	<u>0.5</u>
<u>Egan-Wentworth complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>52, 53, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95</u>	<u>17,529.5</u>	<u>48.4</u>
<u>Egan-Wentworth complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14</u>	<u>12,220.6</u>	<u>28.0</u>
<u>Egan-Wentworth-Trent complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.03</u>
<u>Egan-Wentworth-Trent complex, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>54, 57, 65, 66, 68, 70, 73, 74, 75, 78</u>	<u>9,346.6</u>	<u>25.5</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Egan-Worthing complex, 0 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>49</u>	<u>1,070.9</u>	<u>2.7</u>
<u>Estelline-Kampeska silt loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>9</u>	<u>637.2</u>	<u>1.6</u>
Exline-Aberdeen-Nahon silt loams, 0-2 % slopes	0.43	Pipeline	SDL-320	79, 80	<u>3,281.8</u>	8.1
Exline-Aberdeen-Nahon silt loams, 0-2 % slopes	0.43	Pipeline	SDM-105	35, <u>36, 46</u> , 63, 64, 65	<u>1,692.8</u>	<u>4.8</u>
Exline-Aberdeen-Nahon silt loams, 0-2 % slopes	0.43	Pipeline	SDT-209	4	<u>2,897.1</u>	<u>6.8</u>
Exline-Aberdeen-Nahon silt loams, till substratum, 0-2 % slopes	0.43	Pipeline	SDT-209	7, 8, 9	<u>7,224.7</u>	<u>16.6</u>
Exline-Aberdeen-Nahon silt loams, till substratum, 0-2 % slopes	0.43	Pipeline	SDL-320	<u>79, 80</u>	<u>317.8</u>	0.9
<u>Exline-Heil silt loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>78, 89</u>	<u>814.2</u>	<u>2.3</u>
<u>Exline-Heil silt loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>45</u>	<u>1,282.5</u>	<u>3.4</u>
<u>Exline-Heil silt loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>5</u>	<u>698.0</u>	<u>1.8</u>
Exline-Heil silt loams, till substratum, 0-2 % slopes	0.49	Pipeline	SDT-209	7	<u>173.9</u>	<u>0.8</u>
Exline-Putney silt loams, 1-6 % slopes	0.49	Pipeline	SDM-105	62, 63, 64, <u>65</u>	<u>4,095.4</u>	10.8
<u>Forestburg-Doger loamy fine sands, 0 to 3 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	SDT-207	4, 6	<u>2,874.3</u>	<u>6.3</u>
<u>Gardena-Glyndon silt loams, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Access Road</u>	<u>SDM-105</u>	--	--	<u>0.2</u>
<u>Gardena-Glyndon silt loams, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	--	--	<u>0.5</u>
<u>Graceville silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>28, 50</u>	<u>2,561.2</u>	<u>7.3</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Graceville silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>5, 8</u>	<u>1,501.8</u>	<u>3.7</u>
<u>Grassna silt loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>NDM-106</u>	<u>9, 25</u>	<u>1,656.4</u>	<u>4.2</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDL-336</u>	<u>--</u>	<u>--</u>	<u>0.6</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.5</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-209</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDL-336</u>	<u>--</u>	<u>--</u>	<u>0.04</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDT-209</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-336</u>	<u>0</u>	<u>155.4</u>	<u>0.2</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>29, 30, 31, 34, 35, 39, 41, 50, 51, 53, 55, 56, 57, 58, 59, 60, 61</u>	<u>36,554.7</u>	<u>96.1</u>
<u>Great Bend-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1, 2, 3, 9, 10</u>	<u>8,620.4</u>	<u>19.8</u>
<u>Great Bend-Beotia silt loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDL-336</u>	<u>--</u>	<u>--</u>	<u>0.2</u>
<u>Great Bend-Beotia silt loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>35, 39, 40, 58, 59</u>	<u>1,598.2</u>	<u>4.5</u>

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SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Great Bend-Beotia silt loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>9</u>	<u>609.4</u>	<u>1.6</u>
<u>Great Bend-Beotia silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>28</u>	<u>1,412.2</u>	<u>3.9</u>
<u>Great Bend-Putney silt loams, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 35, 49, 59, 63</u>	<u>2,006.1</u>	<u>5.5</u>
<u>Great Bend-Putney silt loams, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>11</u>	<u>64.1</u>	<u>0.3</u>
<u>Great Bend-Zell silt loams, 2 to 6 percent slopes</u>	<u>0.55</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.01</u>
<u>Great Bend-Zell silt loams, 2 to 6 percent slopes</u>	<u>0.55</u>	<u>MLV</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Great Bend-Zell silt loams, 2 to 6 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>41, 53, 54, 55, 57</u>	<u>3,254.9</u>	<u>9.3</u>
<u>Great Bend-Zell silt loams, 2 to 6 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>11</u>	<u>810.1</u>	<u>1.9</u>
<u>Great Bend-Zell silt loams, 6 to 9 percent slopes</u>	<u>0.55</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.4</u>
<u>Great Bend-Zell silt loams, 6 to 9 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>52, 58</u>	<u>1,962.0</u>	<u>8.1</u>
<u>Great Bend-Zell silt loams, 6 to 9 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1, 2, 3, 9, 10</u>	<u>5,454.5</u>	<u>13.4</u>
<u>Harmony-Aberdeen silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>:</u>	<u>0.02</u>
<u>Harmony-Aberdeen silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>MLV</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Harmony-Aberdeen silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>25, 27</u>	<u>8,919.4</u>	<u>22.8</u>

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SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Harmony-Aberdeen silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 33, 34, 36, 39, 41, 42, 43, 48, 55, 56, 59, 60, 61, 62, 63</u>	<u>23,392.1</u>	<u>64.3</u>
<u>Harmony-Aberdeen silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>4, 6, 7, 12</u>	<u>4,618.4</u>	<u>10.5</u>
<u>Harmony-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 34, 37, 38, 39, 41, 49, 50, 54, 56, 58, 59</u>	<u>20,837.6</u>	<u>54.0</u>
<u>Harmony-Beotia silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>2</u>	<u>157.7</u>	<u>0.2</u>
<u>Harmony-Beotia silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>27, 28, 29, 30</u>	<u>7,582.2</u>	<u>20.2</u>
Heil silt loam, till substratum, 0-1% slopes	0.43	Pipeline	SDT-209	8, 9	<u>432.9</u>	<u>1.0</u>
Heil silt loam, till substratum, 0-1% slopes	0.43	Pipeline	<u>SDM-105</u>	24, 35	<u>685.7</u>	<u>1.1</u>
Heil silt loam, till substratum, 0-1% slopes	0.43	Pipeline	NDT-211	89	<u>253.8</u>	<u>0.7</u>
<u>Henkin-Blendon fine sandy loams, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>72</u>	<u>104.8</u>	<u>0.5</u>
<u>Henkin-Blendon fine sandy loams, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>43</u>	<u>258.7</u>	<u>0.6</u>
<u>Hetland silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>16, 34, 35, 36</u>	<u>7,813.8</u>	<u>18.6</u>
<u>Hetland silty clay loam, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>36, 37</u>	<u>482.0</u>	<u>1.5</u>
<u>Highmore silt loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14</u>	<u>9,816.9</u>	<u>46.0</u>
<u>Highmore silt loam, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>13, 19</u>	<u>243.9</u>	<u>1.2</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Highmore-DeGrey silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>13</u>	<u>244.3</u>	<u>1.2</u>
<u>Highmore-Walke silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>9</u>	<u>715.4</u>	<u>3.4</u>
Hoven silt loam, 0-1 % slopes	0.43	Pipeline	SDL-320	0, 1, <u>7, 8</u> , 17, 20, 21, 22, 26, 28, 32, 33, 36, 38, 44, <u>45</u> , 47, 48, <u>49</u>	<u>8,879.0</u>	<u>13.9</u>
Hoven silt loam, 0-1 % slopes	0.43	Pipeline	SDM-105	0, 2	<u>836.1</u>	2.1
Hoven silt loam, 0-1 % slopes	0.43	Pipeline	SDT-207	6, 7, <u>8</u>	<u>1,723.8</u>	4.1
<u>Huntimer silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDT-206</u>	--	--	<u>1.0</u>
<u>Huntimer silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Launcher/ Receiver</u>	<u>SDT-206</u>	--	--	<u>0.04</u>
<u>Huntimer silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>447, 52, 65, 63, 64, 67, 69, 72, 74, 78, 82, 87, 88, 89, 90, 92, 95</u>	<u>11,685.8</u>	<u>31.8</u>
<u>Huntimer silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>0, 1</u>	<u>2,593.7</u>	<u>5.9</u>
<u>Huntimer silty clay loam, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>60, 64, 73, 78, 79, 81, 87, 88, 90, 92, 93, 95</u>	<u>8,394.6</u>	<u>23.2</u>
<u>Huntimer silty clay loam, 2 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>0, 1, 13</u>	<u>2,306.7</u>	<u>5.7</u>
Jerauld-Houdek complex, undulating	0.43	Pipeline	SDL-320	65, 66	<u>3,116.8</u>	<u>5.7</u>
Jerauld-Houdek complex, undulating	0.43	Access Road	SDL-320	--	--	1.4
<u>Kings Lake-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>2</u>	<u>468.8</u>	<u>1.0</u>
<u>Kranzburg-Brookings silty clay loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>2, 3, 4, 5</u>	<u>4,591.3</u>	<u>11.4</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Kranzburg-Brookings silty clay loams, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>2, 3, 4, 5</u>	<u>13,171.5</u>	<u>32.0</u>
<u>Kranzburg-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.05</u>
<u>Kranzburg-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>30, 31, 36</u>	<u>1,024.0</u>	<u>2.7</u>
<u>Kranzburg-Cresbard silt loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>25, 28</u>	<u>1,729.5</u>	<u>4.6</u>
<u>Kranzburg-Cresbard silt loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>2, 3</u>	<u>2,417.5</u>	<u>5.8</u>
<u>Kranzburg-Zell-Aastad complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDL-336</u>	<u>--</u>	<u>--</u>	<u>0.0003</u>
<u>Kranzburg-Zell-Aastad complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDL-336</u>	<u>0</u>	<u>446.2</u>	<u>1.1</u>
<u>Kranzburg-Zell-Aastad complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>30, 31</u>	<u>1,017.6</u>	<u>2.8</u>
<u>Kranzburg-Zell-Aastad complex, 1 to 6 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>0, 1</u>	<u>612.3</u>	<u>1.5</u>
<u>Kranzburg-Zell-Aastad complex, 3 to 9 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1</u>	<u>262.5</u>	<u>0.6</u>
<u>La Prairie-Fairdale loams, channeled</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>36</u>	<u>162.0</u>	<u>0.5</u>
<u>LaDelle silt loam, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>31, 40, 41</u>	<u>1,989.7</u>	<u>6.1</u>
<u>LaDelle silt loam, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>0, 1, 10</u>	<u>4,618.3</u>	<u>11.8</u>
<u>LaDelle-Fluvaquents, channeled complex, 0 to 2</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>31, 41</u>	<u>1,018.6</u>	<u>1.9</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>percent slopes, frequently flooded</u>						
<u>LaDelle-Fluvaquents, channeled complex, 0 to 2 percent slopes, frequently flooded</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1, 10</u>	<u>748.3</u>	<u>0.9</u>
<u>Lamo silt loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-207</u>	<u>11</u>	<u>1,736.1</u>	<u>2.0</u>
<u>Lamo silty clay loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>113</u>	<u>278.1</u>	<u>0.8</u>
<u>Lamo silty clay loam, cool, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Lamo silty clay loam, cool, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.43</u>	<u>MLV</u>	<u>SDM-105</u>	<u>--</u>	<u>=</u>	<u>0.06</u>
<u>Lamo silty clay loam, cool, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>44, 47, 49, 50, 51, 97</u>	<u>3,779.1</u>	<u>10.2</u>
<u>Lamo silty clay loam, cool, 0 to 2 percent slopes, occasionally flooded</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>5, 6, 9</u>	<u>2,744.1</u>	<u>6.7</u>
<u>Lamoure silty clay loam, somewhat poorly drained, 0 to 1 percent slopes, frequently flooded</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>52, 53</u>	<u>2,263.9</u>	<u>2.6</u>
<u>Lamoure-Rauville silty clay loams, channeled</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>17</u>	<u>312.1</u>	<u>0.7</u>
<u>Lawet loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>71</u>	<u>1,107.0</u>	<u>3.8</u>
<u>Mckranz-Badger silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>2, 3, 4</u>	<u>2,859.1</u>	<u>6.8</u>
<u>McKranz-Hidewood, frequently flooded, silty clay loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>4</u>	<u>363.1</u>	<u>0.8</u>
<u>Miranda-Heil complex, 0-3 % slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>NDT-211</u>	<u>101</u>	<u>436.0</u>	<u>1.2</u>
<u>Mobridge silt loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18</u>	<u>9,871.7</u>	<u>46.0</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDL-320</u>	<u>--</u>	<u>--</u>	<u>0.04</u>
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Launcher/ Receiver</u>	<u>SDM-105</u>	<u>--</u>	<u>--</u>	<u>0.6</u>
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-336</u>	<u>0, 1</u>	<u>509.8</u>	<u>1.1</u>
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 33, 36, 37, 38, 39, 42, 43, 45, 46, 47, 60, 62, 63, 65</u>	<u>37,318.8</u>	<u>100.5</u>
<u>Nahon-Aberdeen-Exline silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>0, 4, 5, 6, 7, 11, 12</u>	<u>14,561.0</u>	<u>34.9</u>
<u>Nahon-Aberdeen-Exline silt loams, till substratum, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>7, 8, 9</u>	<u>2,491.0</u>	<u>5.7</u>
<u>Obert silty clay loam, 0 to 1 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>79</u>	<u>182.5</u>	<u>0.5</u>
<u>Onita-Hoven silt loams</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>20, 21</u>	<u>630.2</u>	<u>2.6</u>
<u>Poinsett-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.04</u>
<u>Poinsett-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.1</u>
<u>Poinsett-Buse-Waubay complex, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 28</u>	<u>33,403.2</u>	<u>80.6</u>
<u>Poinsett-Buse-Waubay complex, 2 to 9 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>7, 9, 10, 11, 20, 23</u>	<u>4,527.3</u>	<u>10.7</u>
<u>Poinsett-Rusklyn silty clay loams, 6 to 9 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>32, 34</u>	<u>1,248.0</u>	<u>3.0</u>

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SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Poinsett-Rusklyn-Waubay silty clay loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>31, 32, 33, 34, 36, 37</u>	<u>6,691.8</u>	<u>16.5</u>
<u>Poinsett-Waubay silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>7, 8, 9, 10, 11, 17, 18, 20, 21, 24, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37</u>	<u>16,318.5</u>	<u>40.3</u>
<u>Poinsett-Waubay silty clay loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.4</u>
<u>Poinsett-Waubay silty clay loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDT-208</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Poinsett-Waubay silty clay loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 37</u>	<u>49,136.0</u>	<u>119.2</u>
<u>Rimlap silt loam, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-210</u>	<u>7</u>	<u>262.8</u>	<u>0.8</u>
<u>Rimlap-Heil silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-210</u>	<u>--</u>	<u>--</u>	<u>0.02</u>
<u>Rimlap-Heil silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>72</u>	<u>196.5</u>	<u>0.4</u>
<u>Rimlap-Heil silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-210</u>	<u>4, 5, 6, 7, 10</u>	<u>1,870.3</u>	<u>3.7</u>
<u>Rimlap-Heil, till substratum silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>NDT-211</u>	<u>96</u>	<u>62.4</u>	<u>0.1</u>
<u>Salmo silty clay loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>43</u>	<u>415.1</u>	<u>.07</u>
<u>Salmo silty clay loam, very wet</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>54, 61</u>	<u>2,040.3</u>	<u>3.3</u>
<u>Stickney-Dudley silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-207</u>	<u>--</u>	<u>--</u>	<u>0.2</u>
<u>Stickney-Dudley silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>147, 148, 150</u>	<u>2,652.1</u>	<u>7.7</u>
<u>Stickney-Dudley silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>7</u>	<u>146.8</u>	<u>0.6</u>
<u>Stickney-Dudley silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-207</u>	<u>0, 2, 3, 7, 9, 10, 15, 23</u>	<u>5,299.4</u>	<u>12.0</u>

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SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Stickney-Dudley silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>46, 47, 48, 50</u>	<u>3,938.9</u>	<u>8.6</u>
<u>Stickney-Dudley-Hoven silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.6</u>
<u>Stickney-Dudley-Hoven silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>71</u>	<u>631.8</u>	<u>2.7</u>
<u>Stickney-Dudley-Hoven silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>141, 142, 143, 144</u>	<u>5,062.1</u>	<u>13.5</u>
<u>Stickney-Dudley-Hoven silt loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>7</u>	<u>452.1</u>	<u>0.8</u>
<u>Still lake-Graceland silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>6, 7</u>	<u>2,337.9</u>	<u>5.5</u>
<u>Still lake-Graceland silty clay loams, 1 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>6</u>	<u>1,546.5</u>	<u>3.5</u>
<u>Tansem-Roseglen silt loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>NDM-106</u>	<u>4, 5, 8</u>	<u>5,474.0</u>	<u>16.1</u>
<u>Temvik-Grassna-Bearpaw complex, 0 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>NDM-106</u>	<u>24</u>	<u>1,165.6</u>	<u>3.0</u>
<u>Tetonka silt loam, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDL-320</u>	<u>45, 49, 51, 52, 53, 55, 57, 58, 62, 63, 65, 67, 68, 69</u>	<u>3,348.3</u>	<u>13.7</u>
<u>Tetonka silt loam, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>52, 53, 110, 111</u>	<u>1,035.6</u>	<u>2.6</u>
<u>Tetonka silt loam, 0 to 2 percent slopes, frequently ponded</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>30, 31, 34, 37, 44, 91, 98, 100</u>	<u>2,140.1</u>	<u>6.3</u>
<u>Tetonka silt loam, 0 to 2 percent slopes, frequently ponded</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>--</u>	<u>--</u>	<u>0.01</u>
<u>Tonka silt loam, silty substratum, 0 to 1 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>35, 60</u>	<u>889.4</u>	<u>1.6</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Tonka silt loam, silty substratum, 0 to 1 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>1</u>	<u>250.9</u>	<u>0.6</u>
<u>Tonka silty clay loam, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>7, 8, 9, 23, 30</u>	<u>1,374.8</u>	<u>2.5</u>
<u>Viborg silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDT-206</u>	<u>--</u>	<u>--</u>	<u>0.2</u>
<u>Viborg silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>86, 87, 88, 89, 90, 93, 94, 95, 96</u>	<u>3,614.7</u>	<u>11.1</u>
<u>Viborg silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>1, 2, 3, 5, 8, 9, 10, 12, 13, 14</u>	<u>6,002.4</u>	<u>14.1</u>
<u>Viborg-Egan silty clay loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>90, 92, 93, 94, 95</u>	<u>2,019.4</u>	<u>5.3</u>
<u>Viborg-Egan silty clay loams, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>13</u>	<u>444.1</u>	<u>1.3</u>
<u>Wakonda-Chancellor complex, 0 to 2 percent slopes</u>	<u>0.55</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>73, 77, 80</u>	<u>1,615.1</u>	<u>4.8</u>
<u>Waubay-Badger silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-208</u>	<u>12</u>	<u>333.4</u>	<u>0.7</u>
<u>Wentworth silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.002</u>
<u>Wentworth silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>MLV</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.06</u>
<u>Wentworth silty clay loam, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>29, 30, 40, 41, 44, 45, 46, 48, 83</u>	<u>12,889.2</u>	<u>35.4</u>
<u>Wentworth silty clay loam, 2 to 6 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>81, 82, 83</u>	<u>2,048.9</u>	<u>5.4</u>
<u>Wentworth-Chancellor silty clay loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Access Road</u>	<u>SDM-104</u>	<u>--</u>	<u>--</u>	<u>0.5</u>
<u>Wentworth-Chancellor silty clay loams, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>28, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 46, 47, 48</u>	<u>48,890.6</u>	<u>135.8</u>

Table 7: Areas of Soils in the Project Area with High Susceptibility to Water Erosion

SOIL TYPE	Kw ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ⁴ (acres)
<u>Wentworth-Chancellor-Wakonda silty clay loams, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>61, 64, 65, 72, 77</u>	<u>4,243.8</u>	<u>10.6</u>
<u>Wentworth-Ethan complex, 2 to 5 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>83</u>	<u>1,378.0</u>	<u>3.9</u>
<u>Wentworth-Trent complex, 0 to 2 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>67</u>	<u>124.2</u>	<u>0.2</u>
<u>Whitewood silt loam</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>83</u>	<u>238.0</u>	<u>0.8</u>
<u>Whitewood silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDM-104</u>	<u>73, 85, 86, 87, 88, 90, 91, 95, 93, 94, 99</u>	<u>6,001.5</u>	<u>15.9</u>
<u>Whitewood silty clay loam, 0 to 2 percent slopes</u>	<u>0.43</u>	<u>Pipeline</u>	<u>SDT-206</u>	<u>2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14</u>	<u>4,978.7</u>	<u>12.0</u>
<u>Winship-Tonka silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDM-105</u>	<u>32, 46, 49, 55, 47, 49, 61, 62, 63, 64</u>	<u>3,915.1</u>	<u>11.1</u>
<u>Winship-Tonka silt loams, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>6, 11</u>	<u>526.1</u>	<u>1.1</u>
<u>Winship-Tonka silt loams, till substratum, 0 to 1 percent slopes</u>	<u>0.49</u>	<u>Pipeline</u>	<u>SDT-209</u>	<u>2</u>	<u>290.2</u>	<u>0.8</u>
Zell-Great Bend silt loams, 6- 25 % slopes	0.43	Pipeline	SDM-105	53	<u>374.1</u>	<u>0.4</u>

Notes:

¹ Kw = erodibility in water factor; Kw over 0.40 considered highly susceptible to erosion by water.

² Approximate milepost, in which soils are present; soils are scattered within these areas.

³ Approximate total length totaled over the centerline; -- signifies the polygon is not crossed by the pipeline centerline.

⁴ Approximate acreage within the Project footprint.

⁵ Acres are rounded.

Table 8: Areas of Soils in the Project Area with High Susceptibility to Wind Erosion

SOIL TYPE	WEG ¹	FACILITY	PIPELINE ID	MILEPOST ²	LENGTH ³ (feet)	AREA ³ (acres)
Dickey-Buse-Embden complex, 6-15 % slopes	2	Pipeline	NDT-211	92	<u>199.7</u>	0.4
Doger loamy fine sand	2	Pipeline	SDT-207	3, 5	<u>846.6</u>	<u>2.2</u>
Elsmere loamy fine sand, loamy substratum	2	Pipeline	SDT-207	5	<u>1,236.1</u>	<u>2.5</u>
Forestburg-Doger loamy fine sands, 0-3 % slopes	2	Pipeline	SDT-207	4, 6	<u>2,874.3</u>	<u>6.3</u>
Loup loamy fine sand	2	Pipeline	SDT-207	2, 4, 5	<u>459.3</u>	<u>1.1</u>
Shue loamy fine sand	2	Pipeline	SDT-207	5, 6	<u>2,482.7</u>	<u>12.9</u>
<u>Shue loamy fine sand</u>	<u>2</u>	<u>Access Road</u>	<u>SDT-207</u>	<u>5</u>	<u>3,589.5</u>	<u>0.5</u>
Telfer-Lihen loamy fine sands, 9- 15 %	2	Pipeline	NDM-106	23	<u>431.1</u>	1.1

Notes:

¹ WEG = wind erodibility group

² Approximate milepost, soils are scattered in the area.

³ Approximate total length (feet) and area (acres); -- means the polygon is not crossed by the pipeline centerline.

⁴ Acres are rounded.

Table 9: Areas with Potential Geologic Hazards

HAZARDS PRESENT	PIPELINE / FACILITY	APPROXIMATE MILEPOST START	<u>CONSTRUCTION</u> IMPACTS ¹ ACREAGE	PERMANENT IMPACTS ACREAGE	HAZARD RISK
Karst	SDT-206	0, <u>11</u>	<u>57.4</u>	<u>27.9</u>	Low
	SDT-207; Access Road; Launcher/Receiver; MLV	0, 1, 4, 10	<u>40.8</u>	<u>22.0</u>	Low
	SDT-209	10	<u>3.9</u>	1.7	High
	SDM-104; Access Road; Launcher/Receiver; MLV	<u>29</u> , 31, 35, <u>85</u> , 97	<u>290.9</u>	<u>123.0</u>	Low
	SDM-105	40, <u>50</u> , 52, 60, 63, 67	<u>135.0</u>	<u>57.7</u>	Low
	SDL-320	66, 74	<u>9.5</u>	<u>4.6</u>	Low
Landslides	SDT-206	0	<u>184.7</u>	<u>90.6</u>	Low Incidence
	SDT-207	0	<u>291.2</u>	<u>145.3</u>	Low Incidence
	SDT-208	0	<u>638.4</u>	<u>309.3</u>	Low Incidence
	SDT-209	0	<u>154.3</u>	<u>75.0</u>	Low Incidence
	SDT-210	0	<u>145.0</u>	<u>73.1</u>	Low Incidence
	SDM-104	27	<u>1,793.1</u>	<u>753.8</u>	Low Incidence
	SDM-105	0, 82	<u>1,547.8</u>	<u>665.3</u>	Low Incidence
	SDL-320	<u>18</u>	<u>217.4</u>	<u>108.3</u>	Moderate Susceptibility & Low Incidence
	SDL-320	<u>0</u>	<u>764.0</u>	<u>379.9</u>	Low Incidence
	SDL-335	0	<u>8.8</u>	<u>5.7</u>	Low Incidence
	SDL-336	0	<u>8.9</u>	5.7	Low Incidence
	NDT-211	<u>89</u>	<u>321.2</u>	<u>150.7</u>	Low Incidence
	NDM-106	0	<u>376.1</u>	<u>163.1</u>	Low Incidence

Notes:

¹ Construction impacts include impacts from both operations and construction.

² Acres are rounded.

Table 10: Perennial Streams Crossed by the Project by River Basin

BASIN ¹	PERENNIAL STREAM	LINE / MILEPOST	CROSSING LENGTH (feet)	COUNTY	CROSSING METHOD ²
Fort Randall Reservoir	Medicine Knoll Creek	SDL-320 / 17.7	26	Sully	Wet open cut
James	Redstone Creek	SDM-104 / <u>128.6</u>	54	Kingsbury	Wet open cut
	Dry Run	SDM-105 / <u>40.6</u>	<u>82</u>	Spink	Wet open cut
	Dry Run	SDT-209 / 9.6	99	Spink	HDD
	<u>Unnamed Waterbody</u>	<u>SDM-105 / 52.1</u>	<u>96</u>	<u>Spink</u>	<u>HDD</u>
	James River	SDT-209 / 1.0	117	Spink	HDD
	James River	SDM-105/ <u>52.1</u>	<u>96</u>	Spink	HDD
	James River	SDT-207 / 11.0	<u>1,997</u>	Beadle	HDD
	Shue Creek	SDT-207 / <u>18.0</u>	<u>1</u>	Beadle	Wet open cut
	Snake Creek	SDM-105 / <u>74.1</u>	<u>17</u>	Brown	Wet open cut
	Timber Creek	SDM-105 / <u>31.1</u>	<u>84</u>	Spink	Wet open cut
	<u>Webber Gulch</u>	<u>NDT-211/ 89.0</u>	<u>162</u>	<u>Brown</u>	<u>HDD</u>
	<u>Shue Creek</u>	<u>SDM-105 / 3.1</u>	<u>9.5</u>	<u>Beadle</u>	<u>Wet open cut</u>
	<u>Tributary to Shue Creek</u>	<u>SDM-105 / 4.3</u>	<u>34</u>	<u>Beadle</u>	<u>Wet open cut</u>
	<u>James River</u>	<u>SDM-105 / 52.1</u>	<u>82</u>	<u>Spink</u>	<u>HDD</u>
	<u>Unnamed Waterbody</u>	<u>SDT-207 / 0.2</u>	<u>4</u>	<u>Beadle</u>	<u>Wet open cut</u>
Big Sioux	Tributary to Big Sioux River	SDT-208 / <u>8.0</u>	30	Codington	Wet open cut
	Big Sioux River	SDM-104 / <u>27.2</u>	93	Lincoln	HDD
	<u>Unnamed Waterbody</u>	<u>SDM-104 / 54.2</u>	<u>8</u>	<u>Minnehaha</u>	<u>Wet open cut</u>
	Tributary to Beaver Creek	SDM-104 / <u>47.4</u>	4	Lincoln	Wet open cut
	<u>Big Sioux River</u>	<u>SDT-208 / 0.2</u>	<u>59</u>	<u>Codington</u>	<u>HDD</u>
	<u>Big Sioux River</u>	<u>SDT-208 / 0.7</u>	<u>53</u>	<u>Codington</u>	<u>HDD</u>
Lewis and Clark Lake	East Fork Vermillion River	SDM-104 / <u>97.1</u>	89	Lake	Wet open cut

Notes:

¹ Identified by the hydrologic unit code (HUC) 6.

² Crossing method planned at this time; methods are described in Section 2.2.

Table 13: Ecoregions Crossed by the Project

LEVEL III ECOREGION ¹	LEVEL III ECOREGION VEGETATION ²	LEVEL IV ECOREGION ³	PROJECT ^{1,3}	
			MILES	PERCENT
Northwestern Glaciated Plains	Spear grass, blue grama grass (<i>Bouteloua gracilis</i>), and wheat grass were once dominant native grasses that covered many parts of the landscape. A variety of shrubs and herbs were also common as well as some sagebrush. On the driest sites yellow cactus and prickly pear (<i>Opuntia</i> spp) can be found. Scrubby quaking aspen (<i>Populus tremuloides</i>), willow (<i>Salix</i> spp), cottonwood (<i>Populus deltoides</i>), and box elder (<i>Acer negundo</i>) occur to a limited extent on shaded slopes of valleys and river terraces. Local saline areas support alkali grass (<i>Puccinellia nuttallii</i>), wild barley, greasewood (<i>Sarcobatus vermiculatus</i>), red sampire (<i>Salicornia rubra</i>), and sea blite. There is a low density of streams and rivers across the area. High concentrations of temporary and seasonal wetlands create favorable conditions for waterfowl nesting and migration.	Missouri Coteau	<u>71</u>	15%
		Southern Missouri Coteau Slope	19	4%
		All	<u>90</u>	19%
Northern Glaciated Plains	Most of the region is now farmland but in its native state, the landscape was characterized by quaking aspen, oak groves, mixed tall shrubs, and intermittent fescue grasslands. Bur oak (<i>Quercus macrocarpa</i>) and grassland communities occupied drier sites. Many areas had transitional grassland containing tallgrass and shortgrass prairie, including big (<i>Andropogon gerardi</i>) and little bluestem (<i>Schizachyrium scoparium</i>), green needlegrass (<i>Nassella viridula</i>), blue grama, western wheatgrass (<i>Pascopyrum smithii</i>), and switchgrass (<i>Panicum virgatum</i>). Streams in the region are mostly intermittent, though some are perennial, and there are some larger rivers. The region is drained by the Missouri River system to the south and to the north by the South Saskatchewan River. In some areas, a high concentration of semi-permanent and seasonal wetlands can be found, locally referred to as Prairie Potholes.	Drift Plains	<u>67</u>	14%
		James River Lowland	<u>159</u>	33%
		Prairie Coteau	<u>90</u>	19%
		Big Sioux Basin	<u>7</u>	1%
		Glacial Lake Basins	<u>65</u>	14%
		All	388	81%

Notes:

¹ GIS data accessed online at <https://www.epa.gov/eco-research/ecoregions-north-america>.

² Descriptions from CEC 2011.

³ Project centerline miles and percent of total Project centerline miles.

Table 14: Land Cover Types Traversed by the Project in South Dakota

COVER TYPE ¹	PROJECT CENTERLINE		DESCRIPTION ²
	MILES	PERCENT	
<u>Irrigated lands/water sources for organized rural water systems lands/Public use</u>	<u>0.1</u>	<u><0.1%</u>	Areas of open water, generally with less than 25% cover of vegetation or soil.
<u>Irrigated lands/water sources for organized rural water systems lands</u>	<u>0.4</u>	<u><0.1%</u>	<u>Manmade and natural ponds.</u>
<u>Existing and potential extractive nonrenewable resources</u>	<u><0.1</u>	<u><0.1%</u>	Areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Noise Sensitive Land Use</u>	<u>1.6</u>	<u>0.3%</u>	<u>Includes</u> such land as residential, commercial, industrial, ROW corridors. Vegetation in previously disturbed areas is frequently little to none and is often composed of introduced weedy species. The previously disturbed areas crossed by the Project have been identified through land-use classification as ROW corridors, with a very small portion (<0.1 mile) identified as rural residence. ROW corridors include roads, utility corridors and railroads. These areas have often been replanted with a mixture of grass and forbs.
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Public use / Noise Sensitive Land Use</u>	<u>10.0</u>	<u>2.1%</u>	<u>Areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.</u>
<u>Land used primarily for row and non-row crops in rotation</u>	<u>334.7</u>	<u>70.0%</u>	Areas used for the production of annual crops, which in the Project area are crops such as wheat, corn, and soybeans. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.
<u>Pasturelands and rangelands / Haylands</u>	<u>60.7</u>	<u>12.7%</u>	Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation. Dominant vegetation observed in hayfields within the Project area consisted of oat (<i>Avena sativa</i>), blue grama (<i>Bouteloua gracilis</i>), smooth brome (<i>Bromus inermis</i>), redroot (<i>Ceanothus americanus</i>), orchardgrass (<i>Dactylis glomerata</i>), creeping wildrye (<i>Elymus repens</i>), fox-tail barley (<i>Hordeum jubatum</i>), alfalfa (<i>Medicago sativa</i>), reed canarygrass (<i>Phalaris arundinacea</i>), Kentucky bluegrass (<i>Poa pratensis</i>), tall false ryegrass (<i>Schedeonorus arundinaceus</i>), and common dandelion (<i>Taraxacum officinale</i>). (Perennial 2021a, 2022b)

Table 14: Land Cover Types Traversed by the Project in South Dakota

COVER TYPE ¹	PROJECT CENTERLINE		DESCRIPTION ²
	MILES	PERCENT	
Palustrine Emergent Wetlands (PEM)	22.6	4.7%	Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water. See descriptions of PEM wetland vegetation in Section 5.4 . Further description is provided in the Project wetlands report (Perennial 2021a, Perennial 2022b) provided in Appendix 9 .
Palustrine Forested Wetlands (PFO)	0.1	<0.1%	Areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water. See descriptions of palustrine scrub shrub (PSS) and palustrine forested (PFO) wetland vegetation in Section 5.4 . Additional information is provided in the Project wetlands report (Perennial 2021a) provided in Appendix 9 .
Palustrine Scrub/Shrub Wetlands (PSS)	0.1	<0.1%	Areas where perennial PSS herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
Public Use	0.8	0.2%	Includes areas of deciduous forest dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change. Forests within the Project area are characterized as hardwood forests. Dominant tree and shrub species in the Project area include boxelder (<i>Acer negundo</i>), green ash (<i>Fraxinus pennsylvanica</i>), eastern red-cedar (<i>Juniperus virginiana</i>), European buckthorn (<i>Rhamnus cathartica</i>), American-aster (<i>Symphotrichum lanceolatum</i>), American elm (<i>Ulmus americana</i>), and Siberian elm (<i>Ulmus pumila</i>). Further description is provided in the habitat assessment (Perennial 2021a, 2022b) provided in Appendix 10 . Also includes areas of shrub/scrub dominated by shrubs less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.
Undisturbed native grasslands	46.3	9.7%	Areas dominated by graminoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling but can be utilized for grazing.
Potential sources for irrigated lands	0.2	<0.1%	Areas of open water, generally with less than 25% cover of vegetation or soil with an ephemeral or intermittent flow regime.
Potential sources for irrigated lands / Public Use	0.6	<0.1%	Areas of open water, generally with less than 25% cover of vegetation or soil with a perennial flow regime.

Table 14: Land Cover Types Traversed by the Project in South Dakota

COVER TYPE ¹	PROJECT CENTERLINE		DESCRIPTION ²
	MILES	PERCENT	
<u>Public, commercial, and institutional use</u>	<u><0.1</u>	<u><0.1%</u>	<u>Developed lands include such land as commercial and industrial uses. Vegetation in previously disturbed areas is frequently little to none and is often composed of introduced weedy species.</u>

Notes:

All figures are rounded.

¹ NLCD cover type descriptors have been revised to reflect SD legislation.

² Cover types of descriptions from National Land Cover Database 2019 (NLCD 2019) Legend online at:

<https://www.mrlc.gov/data/legends/national-land-cover-database-2019-nlcd2019-legend#:~:text=National%20Land%20Cover%20Database%202019%20%28NLCD2019%29%20Legend%20,%20%20%20%2024%20more%20rows%20>

Table 15: Horizontal Directional Drill and Bore Crossings of USFWS Grassland Easements and Wetlands

EASEMENT	COUNTY	PIPELINE ID	MILEPOST	LENGTH (feet)	AREA ¹ (acres)
Grassland	McPherson	NDM-106	<u>6.4</u>	<u>976.7</u>	<u>1.1</u>
Grassland <u>and</u> <u>Wetlands</u>	McPherson	NDM-106	7.0	<u>865.6</u>	<u>1.0</u>
<u>Wetland</u> ²	<u>McPherson</u>	<u>NDM-106</u>	<u>12.3</u>	<u>128.5</u>	<u>0.2</u>
<u>Grassland</u> ²	<u>McPherson</u>	<u>NDM-106</u>	<u>16.4</u>	<u>141.3</u>	<u>0.2</u>
Wetlands	Edmunds	SDM-105	<u>90.1</u>	1,083.1	1.2
<u>Grassland</u> ²	<u>Edmunds</u>	<u>SDM-105</u>	<u>103.7</u>	<u>328.4</u>	<u>0.4</u>
Grassland <u>and</u> <u>Wetlands</u>	McPherson	SDM-105	<u>107.2</u>	<u>2,897.0</u>	<u>3.3</u>
Wetlands	Brown	SDT-210	<u>6.1</u>	<u>973.0</u>	<u>1.1</u>
<u>Wetlands</u> ²	<u>Brown</u>	<u>SDT-210</u>	<u>6.5</u>	<u>199.2</u>	<u>0.2</u>
Grassland <u>and</u> <u>Wetlands</u>	<u>Brown</u>	SDT-210	<u>10.7</u>	<u>4,190.0</u>	<u>4.8</u>
<u>Wetlands</u>	<u>Hyde</u>	<u>SDL-320</u>	<u>29.5</u>	<u>2,739.6</u>	<u>3.1</u>
<u>Grassland</u>	<u>Hand</u>	<u>SDL-320</u>	<u>40.4</u>	<u>3,534.8</u>	<u>4.1</u>
<u>Grassland and</u> <u>Wetlands</u> ²	<u>Hand</u>	<u>SDL-320</u>	<u>44.8</u>	<u>219.4</u>	<u>0.3</u>
<u>Wetlands</u> ²	<u>Hand</u>	<u>SDL-320</u>	<u>52.9</u>	<u>409.2</u>	<u>0.5</u>
Grassland	Hand	SDL-320	<u>58.6</u>	<u>2,962.2</u>	3.4
<u>Grassland and</u> <u>Wetlands</u>	<u>Hand</u>	<u>SDL-320</u>	<u>65.8</u>	<u>1,881.0</u>	<u>2.2</u>
<u>Grassland and</u> <u>Wetlands</u>	<u>Hand</u>	<u>SDL-320</u>	<u>66.4</u>	<u>2,724.2</u>	<u>3.1</u>
Grassland	Spink	SDL-320	75.2	<u>570.1</u>	<u>0.7</u>
Wetlands	Spink	SDL-320	<u>78.5</u>	<u>2,531.4</u>	<u>2.9</u>
<u>Wetlands</u>	<u>Edmunds</u>	<u>SDL-335</u>	<u>0.1</u>	556.7	<u>0.6</u>

Notes:

¹ Acres are rounded.

² Crossed via bore.

Table 16: Noxious Weeds in South Dakota Counties Traversed by the Project

NOXIOUS WEED	NOXIOUS WEEDS IN COUNTIES TRAVERSED BY THE PROJECT ^{1,2}																	
	BEADLE	BROWN	CLARK	CODINGTON	EDMUNDS	HAMLIN	HAND	HYDE	KINGSBURY	LAKE	LINCOLN	MCCOOK	MCPHERSON	MINER	MINNEHAHA	SPINK	SULLY	TURNER
Absinth wormwood ¹ <i>Euphorbia esula</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Bull thistle ² <i>Cirsium vulgare</i>	C	C	<u>C</u>	<u>C</u>	--	<u>C</u>	=	<u>C</u>	--	C	=	C	--	C	=	--	=	=
Canada thistle ¹ <i>Cirsium arvense</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Common burdock ² <i>Arctium minus</i>	--	--	=	=	--	=	=	=	--	C	=	--	--	--	=	--	=	=
Common mullein ² <i>Verbascum Thapsus</i>	--	--	=	=	--	=	=	<u>C</u>	--	--	=	--	--	--	=	--	=	=
Field bindweed ² <i>Convolvulus arvensis</i>	--	--	=	=	--	=	=	=	--	C	=	--	--	--	=	--	=	=
Hoary cress ¹ <i>Cardana draba</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Houndstongue ² <i>Cynoglossum officinale</i>	--	--	=	=	--	=	<u>C</u>	=	--	--	=	--	--	--	=	--	=	=
Leafy spurge ¹ <i>Euphorbia esula</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Musk thistle ² <i>Carduus nutans</i>	C	C	=	<u>C</u>	--	<u>C</u>	<u>C</u>	<u>C</u>	C	C	<u>C</u>	C	--	C	=	C	=	=
Palmer Amaranth ² <i>Amaranthus palmeri</i>	--	--	=	=	<u>C</u>	=	=	<u>C</u>	--	--	=	--	--	--	=	--	=	=
Perennial sowthistle ¹ <i>Sonchus arvensis</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Plumeless thistle ² <i>Carduus acanthoides</i>	C	C	=	<u>C</u>	--	<u>C</u>	<u>C</u>	<u>C</u>	C	C	<u>C</u>	C	--	C	=	C	=	=
Poison hemlock ² <i>Conium maculatum</i>	--	--	<u>C</u>	=	--	<u>C</u>	=	=	C	--	=	--	--	--	=	--	=	=
Purple loosestrife ¹ <i>Lythrum salicaria</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Saltcedar ¹ <i>Tamarix spp.</i>	SW	SW	<u>SW</u>	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>	<u>SW</u>	SW	SW	<u>SW</u>	SW	SW	SW	<u>SW</u>	SW	<u>SW</u>	<u>SW</u>
Scotch thistle ² <i>Onopordum acanthium</i>	--	--	=	=	--	=	=	=	--	C	=	--	--	--	=	--	=	=
Spotted knapweed ² <i>Centaurea maculosa</i>	--	--	<u>C</u>	=	--	=	=	=	--	C	<u>C</u>	--	--	--	=	--	=	<u>C</u>
Yellow toadflax ² <i>Linaria vulgaris</i>	C	C	=	=	C	<u>C</u>	<u>C</u>	=	--	--	=	--	C	--	=	C	=	=

¹ Statewide (SW) noxious weed species per S.D. Admin. R. 12:62:03:01.06 and online at <https://danr.sd.gov/Conservation/PlantIndustry/WeedPest/WeedandPestInfo/StateNoxious/default.aspx>.

² Localized (C) noxious weed in noted county per South Dakota Locally Noxious Weed Pest List, available at <https://danr.sd.gov/Conservation/PlantIndustry/WeedPest/docs/noxiousweeds.pdf>.

Table 18: Project ROW Impacts by Land Cover Type in South Dakota

COVER TYPE ¹	TEMPORARY IMPACT ²		PERMANENT IMPACT ³		TOTAL	
	ACRES ⁴	PERCENT	ACRES ⁴	PERCENT	ACRES ⁴	PERCENT
<u>Irrigated lands/water sources for organized rural water systems lands/Public use</u>	<u><0.1</u>	<u><1%</u>	<u>0.0</u>	<u>0%</u>	<u>0.0</u>	<u><1%</u>
<u>Irrigated lands/water sources for organized rural water systems lands</u>	<u>1.0</u>	<u><1%</u>	<u>0.0</u>	<u>0%</u>	<u>1.0</u>	<u><1%</u>
<u>Existing and potential extractive nonrenewable resources</u>	<u>0.9</u>	<u><1%</u>	<u>0.2</u>	<u><1%</u>	<u>1.1</u>	<u><1%</u>
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Noise Sensitive Land Use</u>	<u>16.7</u>	<u><1%</u>	<u>5.8</u>	<u>21.6%</u>	<u>22.5</u>	<u>2.2%</u>
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Public use / Noise Sensitive Land Use</u>	<u>133.9</u>	<u>2.1%</u>	<u>3.5</u>	<u>13.0%</u>	<u>137.4</u>	<u>72.3%</u>
<u>Land used primarily for row and non-row crops in rotation</u>	<u>4588.7</u>	<u>72.4%</u>	<u>10.9</u>	<u>40.6%</u>	<u>4599.6</u>	<u>12.8%</u>
<u>Pasturelands and rangelands / Haylands</u>	<u>809.7</u>	<u>12.8%</u>	<u>3.2</u>	<u>11.9%</u>	<u>812.9</u>	<u>3.0%</u>
<u>Palustrine Emergent Wetlands (PEM)</u>	<u>189.3</u>	<u>3.0%</u>	<u>0.03</u>	<u><1%</u>	<u>189.33</u>	<u><1%</u>
<u>Palustrine Forested Wetlands (PFO)</u>	<u>0.2</u>	<u><1%</u>	<u>0.4</u>	<u>1.5%</u>	<u>0.6</u>	<u><1%</u>
<u>Palustrine Scrub/Shrub Wetlands (PSS)</u>	<u>0.3</u>	<u><1%</u>	<u>0.5</u>	<u>1.9%</u>	<u>0.8</u>	<u><1%</u>
Public Use	<u>10.7</u>	<u><1%</u>	<u>0.2</u>	<u><1%</u>	<u>10.9</u>	<u><1%</u>
<u>Undisturbed native grasslands</u>	<u>585.1</u>	<u>9.2%</u>	<u>1.0</u>	<u>3.7%</u>	<u>586.1</u>	<u>9.2%</u>
<u>Potential sources for irrigated lands</u>	<u>1.8</u>	<u><1%</u>	<u><0.1</u>	<u><1%</u>	<u>1.84</u>	<u><1%</u>
<u>Potential sources for irrigated lands / Public Use</u>	<u>0.9</u>	<u><1%</u>	<u>0.0</u>	<u>0%</u>	<u>0.9</u>	<u><1%</u>

Table 18: Project ROW Impacts by Land Cover Type in South Dakota

COVER TYPE ¹	TEMPORARY IMPACT ²		PERMANENT IMPACT ³		TOTAL	
	ACRES ⁴	PERCENT	ACRES ⁴	PERCENT	ACRES ⁴	PERCENT
<u>Public, commercial, and institutional use</u>	0.2	<1%	1.1	4.1%	1.3	<1%
Total	6339.4	100%	26.9	100%	6366.3	100%

Notes:

¹ Cover types from and as mapped by National Land Cover Database but revised to include survey and desk top analysis. NLCD cover type descriptors have been revised to reflect SD legislation.

² Temporary impacts consist of Project footprint during construction including the operational pipeline ROW and additional temporary workspace (ATWS).

³ Permanent impacts consist of areas where permanent facilities exist including pump stations, MLVs, launcher/receivers, and access roads.

⁴ Acres are rounded.

Table 21: Turkey Management Areas and Hunting Success in Project Counties

MANAGEMENT UNIT ¹	PROJECT COUNTY ²	SPRING 2021 AND FALL 2020 HUNTING SEASON ⁴				MANAGEMENT GOAL ^{5,6}
		LICENSES SOLD ³	HUNTER SUCCESS ³ (%)	HARVEST BY SEASON (BIRDS/100MI ²)		
				SPRING	FALL	
01A	Minnehaha	80	<u>58</u>	<u>2-9</u>	<u>0-2</u>	increase
22A	Codington ⁷	<u>90</u>	<u>44</u>	<u>2-9</u>	--	increase
32A	Clark/Hamlin	<u>20</u>	<u>50</u>	<u>0-2</u>	--	increase
40A	Beadle/Hand ⁸	<u>20</u>	<u>40</u>	<u>2-9</u>	--	increase
44A/44B	Lincoln	<u>100</u>	<u>48 / 21</u>	<u>2-9</u>	<u>0-2</u>	increase
<u>61A</u>	<u>Turner</u>	<u>20</u>	<u>39</u>	<u>0-2</u>	<u>--</u>	<u>increase</u>
--	McPherson, Edmunds, Brown, Spink, Sully, Hyde, Kingsbury, Miner, Lake, McCook	--	--	--	--	--

Notes:

¹ Hunting license not valid outside regulatory Management Unit (SDGFP 2021e).

² County within the Management Unit with Project footprint.

³ [Data from SDGFP 2022 Spring Turkey Harvest Report.](#)

⁴ Data from [SDGFP 2021 Spring and 2020 Fall Turkey Harvest Statistics \(SDGFP 2021c\)](#); dashes (–) indicate no fall turkey hunting season in these counties, no harvest record.

⁵ Data from SDGFP 2021d; dashes (–) indicate no season in the county.

⁶ Management goal set by SDGFP (2021d) as increase, maintain, or decrease turkey population.

⁷ Management Unit also includes Day County, which has no Project footprint.

⁸ Management Unit also includes Jerauld County, which has no Project footprint.

Table 22: Abundance, Priority Habitats, and Harvest of Prairie Grouse in Project Counties

PROJECT COUNTY	SHARP-TAILED GROUSE			GREATER PRAIRIE CHICKEN			PRAIRIE GROUSE HARVEST (BIRDS/100 SQ MI) ³
	ABUNDANCE ¹	PRIORITY HABITAT IN ²		ABUNDANCE ¹	PRIORITY HABITAT IN ²		
		COUNTY	FOOTPRINT		COUNTY	FOOTPRINT	
Beadle	present, <10 Leks	Yes	Yes	present, <10 Leks	Yes	--	<u>0 - 23</u>
Brown	present, no known leks	yes	yes	present, <10 leks	--	--	<u>0 - 23</u>
Clark	present, <10 leks	yes	yes	present, <10 leks	--	--	<u>0 - 23</u>
Codington	present, <10 leks	yes	--	present, no known leks	--	--	<u>24 - 78</u>
Edmunds	present, <10 leks	yes	yes	present, no known leks	--	--	<u>0 - 23</u>
Hamlin	maybe present	yes	--	possibly present	--	--	<u>0 - 23</u>
Hand	present, >10 leks	yes	yes	present, >10 leks	yes	--	<u>24 - 78</u>
Hyde	present, >10 leks	yes	yes	present, >10 leks	yes	yes	<u>0 - 23</u>
Kingsbury	present, no known leks	yes	--	possibly present	--	--	<u>0 - 23</u>
Lake	maybe present	yes	yes	possibly present	--	--	<u>0 - 23</u>
Lincoln	probably absent	--	--	probably absent	--	--	<u>24 - 78</u>
McCook	maybe present	yes	--	probably absent	--	--	<u>0 - 23</u>
McPherson	present, >10 leks	yes	yes	present, <10 leks	--	--	<u>24 - 78</u>
Miner	present, no known leks	yes	--	possibly present	--	--	<u>0 - 23</u>
Minnehaha	maybe present	yes	--	probably absent	--	--	<u>0 - 23</u>
Spink	present, no known leks	yes	yes	present, <10 leks	yes	--	<u>0 - 23</u>
Sully	present, >10 leks	yes	yes	present, <10 leks	yes	yes	<u>24 - 78</u>
Turner	maybe present	--	--	possibly present	--	--	<u>0 - 23</u>

Notes

¹ SDGFP (2017) assesses abundance and distribution based on the number of known leks.

² Priority habitat within the Project County and within Project footprint per SDGFP Environmental Review Tool accessed on [8/25/23](https://ert.gfp.sd.gov/content/map) at <https://ert.gfp.sd.gov/content/map>.

³ Average number of prairie grouse (sharp-tailed grouse and greater prairie chicken) harvested per 100 square miles [in 2022](#) per SDGFP [2023 Prairie Grouse Hunting Forecast Report](#).

Table 23: Project Waterfowl Production Area Crossings

PIPELINE ROUTE ID	MILEPOST	CROSSING LENGTH (MILES)	WATERFOWL PRODUCTION AREA	TYPE	DATA SOURCE ¹
NDM-106	2.61	0.27	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	4.37	0.2	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	4.57	0.3	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	4.87	0.67	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	5.53	0.18	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	5.72	0.33	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	6.05	0.3	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	6.35²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	NCED
NDM-106	6.35²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	6.35²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	6.37	1.51	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	7.08²	0.01	McPherson County Waterfowl Production Area	Conservation Easement	NCED
NDM-106	7.08²	0.01	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	7.88	0.44	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	10.6	0.28	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	10.88	0.4	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	11.29	0.16	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	11.44	0.7	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	12.14	0.12	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	12.26	0.75	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	13.01	0.32	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	15.44²	0.29	McPherson County Waterfowl Production Area	Conservation Easement	NCED
NDM-106	15.44²	0.29	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	16.54²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	NCED
NDM-106	16.54²	0.82	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	16.54²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	17.36	0.49	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	17.85	0.54	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	18.38	0.13	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	18.51	0.18	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	18.7	0.17	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	18.87	0.51	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	19.37	0.5	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	19.87	0.52	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDM-106	20.39	0.97	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDT-211	105.42	0.74	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
NDT-211	111.24	0.2	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	27.68	0.5	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	29.22	0.5	Hyde County Waterfowl Production Area	Conservation Easement	PADUS

Table 23: Project Waterfowl Production Area Crossings

PIPELINE ROUTE ID	MILEPOST	CROSSING LENGTH (MILES)	WATERFOWL PRODUCTION AREA	TYPE	DATA SOURCE ¹
SDL-320	29.72	1.02	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	30.83	1.18	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	32.01	0.93	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	33.45	0.52	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	33.97	1.56	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	35.53	1.06	Hyde County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	38.6	0.43	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	40.04²	0.56	Hand County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	40.04²	0.53	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	40.04²	0.53	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	40.57	0.03	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	40.57	0.03	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	44.81²	0.05	Hand County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	44.81²	0.05	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	44.81²	0.05	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	52.51	0.5	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	58.32²	0.5	Hand County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	58.32²	0.5	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	58.32²	0.5	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	62.93	0.09	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	63.02	0.43	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	63.46	0.11	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	63.73	0.57	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	64.53	0.05	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	65.66²	0.09	Hand County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	65.66²	0.09	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	65.66²	0.09	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	65.75	0.44	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	66.18²	0.5	Hand County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	66.18²	0.5	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	66.18²	0.5	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	66.68	1.62	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	68.31	0.48	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	68.86	1.1	Hand County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	72.6	0.5	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	73.1	1.09	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	74.2	1.04	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	75.23	0.07	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	75.23	0.07	Spink County Waterfowl Production Area	Conservation Easement	PADUS

Table 23: Project Waterfowl Production Area Crossings

PIPELINE ROUTE ID	MILEPOST	CROSSING LENGTH (MILES)	WATERFOWL PRODUCTION AREA	TYPE	DATA SOURCE ¹
SDL-320	75.24²	0.05	Spink County Waterfowl Production Area	Conservation Easement	NCED
SDL-320	75.83	0.4	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	76.39	0.48	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	76.87	0.51	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	77.37	0.5	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	77.87	0.4	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	78.29	0.18	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-320	78.47	0.41	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDL-335	0	0.3	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDL-335	0.3	0.13	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	58.35	0.17	Minnehaha County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	58.75	0.4	Minnehaha County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	59.88	0.06	Minnehaha County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	77.61	0.3	Minnehaha County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	77.61	0.3	Minnehaha County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	100.39	0.05	Lake County Waterfowl Production Area Of Sd	Conservation Easement	PADUS
SDM-104	100.44	0.66	Lake County Waterfowl Production Area Of Sd	Conservation Easement	PADUS
SDM-104	101.73	0.59	Lake County Waterfowl Production Area Of Sd	Conservation Easement	PADUS
SDM-104	102.33	0.1	Miner County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	102.43	0.52	Miner County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	109.12	0.91	Miner County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	116.76	0.64	Miner County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	126.61	0.03	Kingsbury County Waterfowl Production Area	Conservation Easement	PADUS
SDM-104	126.98	0.31	Kingsbury County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	35.71	0.06	Spink County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	81.64	0.6	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	82.25	0.77	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	83.02	0.5	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	83.52	0.6	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	84.12	0.1	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	85.99	0.91	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	86.9	0.56	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	87.46	0.49	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	87.95	0.28	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	88.23	0.28	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	88.51	0.27	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	88.94	1.18	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	90.13	0.54	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	90.67	0.8	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS

Table 23: Project Waterfowl Production Area Crossings

PIPELINE ROUTE ID	MILEPOST	CROSSING LENGTH (MILES)	WATERFOWL PRODUCTION AREA	TYPE	DATA SOURCE ¹
SDM-105	94.29	0.12	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	103.39²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	NCED
SDM-105	103.39²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	103.39²	0.02	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	103.4	1.38	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	106.87	0.29	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	107.16²	0.29	McPherson County Waterfowl Production Area	Conservation Easement	NCED
SDM-105	107.16²	0.29	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDM-105	107.16²	0.29	McPherson County Waterfowl Production Area	Conservation Easement	PADUS
SDT-206	1.59	0.28	Lake County Waterfowl Production Area Of Sd	Conservation Easement	PADUS
SDT-207	1.32	0.56	Beadle County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	13.87	0.26	Hamlin County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	14.13	0.37	Hamlin County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	17.64	0.03	Hamlin County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	22.39	0.66	Hamlin County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	29.31	0.15	Clark County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	33.48	0.35	Clark County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	36.2	0.67	Clark County Waterfowl Production Area	Conservation Easement	PADUS
SDT-208	39.24	0.56	Clark County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	4.39	0.51	Brown County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	4.89	0.52	Brown County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	5.42	0.61	Brown County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	6.03	1.02	Brown County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	7.05	1	Brown County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	10.89	0.25	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS
SDT-210	10.89	0.25	Edmunds County Waterfowl Production Area	Conservation Easement	PADUS

¹ NCED = National Conservation Easement Database; PADUS = Protected Areas Database of the United States

² Waterfowl Production Areas to be crossed by HDD or bore methods.

Res Table 25: Other State Listed Species in the Project Area

SPECIES ¹	STATUS ²	PROJECT COUNTIES ^{4,5}	KEY HABITATS ³	IMPACT ASSESSMENT ⁷	DETERMINATION OF EFFECTS ⁷
Swift Fox <i>Vulpes velox</i>	ST	Sully, Hyde	Prefers heavily grazed shortgrass or mixed-grass prairies with open, gently rolling topography for high visibility of surrounding area and is usually associated with prairie dog or ground squirrel colonies. They use dens throughout the year and may dig their own dens or occupy abandoned badger dens or prairie dog burrows. Suitable habitat may be present within the Project area, especially in Sully and Hyde Counties (Perennial 2021b)	<u>Suitable habitat may be present within the Project area, especially in Sully and Hyde counties. However, based on coordination with SDGFP, occurrence is unlikely due to minimal habitat and lack of recorded observations in the vicinity of the proposed Project. Therefore, the Project is <i>not likely to adversely affect</i> the swift fox.</u>	Not Likely to Adversely Affect
Bald eagle ⁶ <i>Haliaeetus leucocephalus</i>	BGEPA ⁶	All	Usually found near water such as rivers, lakes, reservoirs, and coastal areas. Large cottonwood trees are typically used for nesting and roosting. This species requires a large area of clear surface water for feeding. Bald eagles are widespread nesters that nest along many rivers and large wetlands in South Dakota. Wintering birds congregate near Missouri River dams and surrounding forests and also winter in the Black Hills. Eagles can be seen in migration along rivers and large wetlands. Eagles begin nesting in March or April. They typically nest high in trees and often reuse nests from previous years. A typical clutch has 2 eggs which are incubated for 45 days. Both parents care for chicks, which stay in the nest for 10-11 weeks. Suitable habitat for the bald eagle may be present at various locations within the Project area, especially near large rivers and streams such as the Big Sioux River and the Vermillion River. ⁷ Although bald eagles were observed	<u>Suitable habitat for the bald eagle may be present at various locations within the Project area in South Dakota, especially near large rivers and streams such as the Big Sioux River and the Vermillion River. Although bald eagles were observed during the survey, eagle nests were not observed within the Project area. In the event a bald eagle is observed prior to or during construction, SCS will coordinate with SDGFP. Additionally, SCS will adhere to the conservation measures established in the USFWS National Bald Eagle Management Guidelines.</u>	Not Likely to Adversely Affect

Res Table 25: Other State Listed Species in the Project Area

SPECIES ¹	STATUS ²	PROJECT COUNTIES ^{4,5}	KEY HABITATS ³	IMPACT ASSESSMENT ⁷	DETERMINATION OF EFFECTS ⁷
			during the survey, eagle nests were not observed in the Project area (Perennial 2021b)		
Lined snake <i>Tropidoclnion lineatum</i>	SE	Lincoln, Minnehaha	Prefers open, grassy prairies with rich soils and sparsely wooded areas. Often found on hillsides near rocky areas. Lined snakes are active at night and typically shelter beneath rocks and logs during the day. This species overwinters underground in animal burrows. Suitable habitat for the lined snake may be present in the Project area (Perennial 2021b; 2022a).	<u>Species-specific surveys were conducted in July 2022. Neither lined snakes nor suitable habitat were observed within the Project area. Additional surveys for Lined Snake will take place in Fall of 2023.</u>	<u>Final determination of effects will be made when surveys are complete.</u>
False map turtle <i>Graptemys pseudogeographica</i>	ST	Sully, Hyde	Large rivers, backwaters, lakes, and flooded floodplains. Turtles need basking sites and aquatic vegetation. Females dig nests in sandy areas near water, laying up to 3 clutches per breeding season. She lays 12-16 eggs in June and July, and eggs hatch 2 months later. Turtles overwinter in mud or in muskrat dens within wetlands.	<u>Suitable habitat for the false map turtle may be present in the Project area. However, the Project area within the range of this species has largely been converted to agricultural use. One small pond and wetland complex is present within the species range and Project area at GPS coordinates (44.693070°, -100.054419°), but due to the small size of the feature and its isolation from other lakes, rivers, and ponds, it is highly unlikely to support this species. Therefore, the project is not likely to adversely affect the false map turtle.</u>	<u>Not Likely to Adversely Affect</u>
Banded killifish <i>Fundulus daphaneus</i>	SE	McPherson, Edmunds, Brown	Habitat is lentic or lotic; it has been detected in quiet, shallow lakes, and in ponds with abundant aquatic vegetation and sandy-gravel substrates but also in streams with muddy bottoms without aquatic vegetation. Reported from a few lakes in west South Dakota. East South Dakota is on the range periphery. Since	<u>Suitable habitat for the banded killifish may be present in the Project area, especially in quiet shallow streams ponds, and lakes within McPherson County (Hydrologic Unit Code 10: 1013010603). However, based on coordination with SDGFP, the proposed Project does not</u>	<u>No Effect</u>

Res Table 25: Other State Listed Species in the Project Area

SPECIES ¹	STATUS ²	PROJECT COUNTIES ^{4,5}	KEY HABITATS ³	IMPACT ASSESSMENT ⁷	DETERMINATION OF EFFECTS ⁷
			<p>2000, reported banded killifish have been limited to the inlet of Bitter Lake, Day County and Little Eureka Lake, McPherson County (Perennial 2021b).</p>	<p><u>intersect within 1 mile of this species' known and current range. Therefore, the Project will have <i>no effect</i> on this species</u></p>	
<p>Blacknose shiner <i>Notropis heterolepis</i></p>	<p>SE</p>	<p>Brown, Codington</p>	<p>Prefers cool, highly vegetated streams, small rivers, and lakes with sandy substrates. Spawns May to June over sandy substrates. Southern South Dakota, tributaries to the James and Keya Paha River basins. South Dakota is on the western periphery of the range for this species</p>	<p><u>Suitable habitat for the blacknose shiner may be present in the project area in the tributaries of the James and Paha River basins. However, based on coordination with SDGFP, the proposed Project does not intersect within 1 mile of this species' known and current range. Therefore, the Project will have <i>no effect</i> on this species.</u></p>	<p><u>No Effect</u></p>
<p>Northern redbelly dace <i>Chrosomus eus</i></p>	<p>ST</p>	<p>Codington, Miner, Turner, Lincoln, Hamlin, Kingsbury, McCook, Minnehaha</p>	<p>Prefers cool, bogs, ponds, beaver ponds, lakes, and small clear streams. Spawns in clear low to moderate current over sand or gravel substrates during the spring. South central South Dakota- tributaries to the Little White and Keya Paha River basins. South Dakota is on the southern periphery of the range for this species. Suitable habitat for the northern redbelly dace may be present in the Project area in the tributaries of the Missouri and Big Sioux rivers (Perennial 2021b).</p>	<p><u>Species-specific surveys were conducted in June 2022. Suitable habitat for the northern redbelly dace was observed in the Project area within the South Fork Pearl Creek in Kingsbury County, and Pearl Creek in Beadle County Other waterbodies in the Project vicinity identified as containing potentially suitable habitat were assessed during the 2022 surveys and determined to not support fish populations or provide suitable habitat for northern redbelly dace. SCS will utilize trenchless crossing methods in these waterbodies, such as HDD or bore, to avoid all in-stream impacts. Therefore, the Project is <i>not likely to adversely affect</i> the northern redbelly dace.</u></p>	<p><u>No Effect</u></p>
<p>Interior Least Tern <i>Sternula antillarum athalassos</i></p>	<p>SE</p>	<p>Sully</p>	<p>Interior least terns are typically found along large rivers. The nesting areas are barren, treeless beaches of sand, gravel, or shells; dry mudflats and salt flats; and sand and</p>	<p><u>Suitable habitat for the interior least tern may be present west and south of the Project area. However, this species is only present in South Dakota during the nesting</u></p>	<p><u>Not Likely to Adversely Affect</u></p>

Res Table 25: Other State Listed Species in the Project Area

SPECIES ¹	STATUS ²	PROJECT COUNTIES ^{4,5}	KEY HABITATS ³	IMPACT ASSESSMENT ⁷	DETERMINATION OF EFFECTS ⁷
			gravel pits along rivers. Interior least terns arrive in South Dakota in early May and leave at the end of the summer. In South Dakota, interior least terns nest along the Missouri and Cheyenne rivers, with the majority nesting below Gavins Point Dam.	<u>season (May-August). Construction activities will start prior to and will continue through when the least tern would be expected to inhabit the area during migration. Therefore, it is anticipated that the least tern would utilize similar habitat beyond the Project area where disturbance is actively occurring. Additionally, this species is highly mobile and would likely avoid the construction area. Therefore, the project is not likely to adversely impact the interior least tern</u>	

Notes:

¹ State listed species in South Dakota, which are also not federally listed, and which are found in South Dakota counties the Project traverses (SDGFP 2021 j,k,l).

² Status: ST = State threatened, SE = State endangered, BGEPA = Bald and Golden Eagle Protection Act

³ Key habitats and distribution from SDGFP Wildlife of South Dakota website <https://apps.sd.gov/gf43wap/Species.aspx#tab2>.

⁴ Counties with Project footprint only.

⁵ Occurrence / distribution from SDGFP (2021j) mapping website Wildlife of South Dakota accessed on 13 December 2021 at <https://apps.sd.gov/gf43wap/Species.aspx#tab2>; includes more counties than Environmental Review Tool (SDGFP 2021l) at <https://ert.gfp.sd.gov/content/map>.

⁶ The bald eagle is not currently federally listed or state-listed in South Dakota but is included here due to its protection under the BGEPA.

⁷ Impact Assessment and Determination of Effects as included in Threatened and Endangered Species Report – Beadle, Brown, Clark, Codington, Edmunds, Hamlin, Hand, Hyde, Kingsbury, Lake, Lincoln, McCook, McPherson, Miner, Minnehaha, Spink, Sully, and Turner counties, South Dakota, 2022.

Table 28: Wetlands Impacted by the Project

WETLAND TYPE ¹	PROJECT IMPACTS BY FACILITY TYPE ^{2,3}					
	PIPELINE		ACCESS ROADS		PUMP STATIONS	
	CONSTRUCTION ROW (ACRES) ⁴	OPERATION ROW (ACRES)	CONSTRUCTION (ACRES) ⁴	OPERATION (ACRES)	CONSTRUCTION (ACRES) ⁴	OPERATION (ACRES)
PEM	<u>188.0</u>	<u>0.0</u>	<u>1.3</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>
PSS	<u>0.8</u>	<u>0.5</u>	<u>0.0</u>	0.0	<u>0.0</u>	<u>0.0</u>
PFO	<u>0.6</u>	<u>0.4</u>	0.0	0.0	<u>0.0</u>	<u>0.0</u>
Total	<u>189.4</u>	<u>0.9</u>	<u>1.3</u>	<u><0.1</u>	<u><0.1</u>	<u><0.1</u>

Notes:

¹ PEM = palustrine emergent, PSS = palustrine scrub-shrub, PFO = palustrine forested.

² Area within Project footprint; there are no direct wetland impacts associated with Project facilities not listed here. Project HDD crossings are not included as impacts, the ground disturbance at these locations will be avoided.

³ Impacts shown consist of wetlands within the Project workspace, including those not crossed by the Project centerline.

⁴ Construction impacts include both construction footprint and operation footprint.

Table 29: Named Waterbodies Crossed by the Project

FEATURE NAME	COUNTY	LINE / MILEPOST	CROSSING METHOD ¹	CROSSING LENGTH ² (FEET)	IMPACT ³ (ACRES)	ASSOCIATED WETLANDS ⁴	STREAM TYPE
Spring Creek	McPherson	NDM-106 / 21.3	HDD	6.2	--	PEM	Intermittent
<u>Webber Gulch</u>	<u>Brown</u>	<u>NDT-211 / 89.0</u>	HDD	161.8	--	PEM	Perennial
<u>Foot Creek</u>	<u>McPherson</u>	<u>NDT-211 / 112.1</u>	WOC	2.2	0.002	--	Ephemeral
Medicine Knoll Creek	Sully	SDL-320 / 17.7	WOC	26.5	0.03	PEM	Perennial
Matter Creek	Hand	SDL-320 / 50.7	WOC	11.2	0.02	--	Ephemeral
Bryant Creek	Hand	SDL-320 / 63.9	WOC	20.7	0.02	PEM	Intermittent
E. Fork Vermillion R.	Lake	SDM-104 / 97.1	WOC	89.0	0.1	--	Perennial
Redstone Creek	Clark	SDT-208 / 43.4	WOC	1.0	0.001	PEM	Ephemeral
	Kingsbury	SDM-104 / 128.6	WOC	53.6	0.06	PEM	Perennial
W. Branch Skunk Cr.	Minnehaha	SDM-104 / 76.4	WOC	2.4	0.003	PEM	Ephemeral
Dry Run	Spink	SDM-105 / 40.6	WOC	82.4	0.1	PEM	Perennial
	Spink	SDT-209 / 9.6	HDD	99.4	--	PEM	Perennial
James River	Spink	SDT-209 / 1.0	HDD	116.6	--	PEM	Perennial
	Spink	SDM-105 / 52.1	HDD	81.9	--	PFO	Perennial
	Beadle	SDT-207 / 11.0	HDD	1,996.7	--	PEM	Perennial
Shue Creek	<u>Beadle</u>	<u>SDM-105 / 3.1</u>	WOC	9.5	0.01	PEM	Perennial
	Beadle	SDT-207 / 18.0	WOC	71.0	0.08	--	Perennial
Snake Creek	Brown	SDM-105 / 74.1	WOC	17.1	0.02	PEM	Perennial
	Brown	SDT-210 / 9.0	WOC	10.6	0.01	PEM	Ephemeral
Timber Creek	Spink	SDM-105 / 31.1	WOC	83.7	0.1	PEM	Perennial

Table 29: Named Waterbodies Crossed by the Project

FEATURE NAME	COUNTY	LINE / MILEPOST	CROSSING METHOD ¹	CROSSING LENGTH ² (FEET)	IMPACT ³ (ACRES)	ASSOCIATED WETLANDS ⁴	STREAM TYPE
Big Sioux River	Lincoln	SDM-104 / <u>27.2</u>	HDD	<u>92.7</u>	--	--	Perennial
	<u>Codington</u>	<u>SDT-208 / 0.2</u>	<u>HDD</u>	<u>59.0</u>	<u>--</u>	<u>PEM</u>	<u>Perennial</u>
	<u>Codington</u>	<u>SDT-208 / 0.7</u>	<u>HDD</u>	<u>53.0</u>	<u>--</u>	<u>PEM</u>	<u>Perennial</u>
<u>Brant Lake</u>	Lake	SDT-206 / 3.4	HDD	<u>187.2</u>	--	PEM	Lake
<u>Foster Creek</u>	<u>Spink</u>	<u>SDM-105 / 15.1</u>	<u>WOC</u>	<u>51.5</u>	<u>0.05</u>	<u>PEM</u>	<u>Intermittent</u>

Notes:

¹ Crossing method is either HDD (horizontal directional drill) or WOC (wet open cut) as identified in Section 2.2.

² Crossing length is centerline and bank to bank.

³ Impact within stream; there may be additional impact to adjacent associated wetlands.

⁴ Associated wetlands are adjacent riparian wetlands but are not included in the impact acreage: PEM = palustrine emergent.

Table 30: Fish Stocked in Named Waterbodies Crossed by the Project

STREAM	COUNTY ¹	FISH STOCKED ²	MOST RECENT STOCK YEAR ³
Redstone Creek	Sanborn	Walleye	1985
W. Branch Skunk Cr.	Minnehaha	Black bullhead, black crappie, yellow perch	1935
James River	Beadle	Black crappie, channel catfish, smallmouth bass, largemouth bass, bluegill, walleye, sauger, muskellunge, northern pike, yellow perch	1995
<u>James River</u>	<u>Brown</u>	<u>Saugeye, walleye</u>	<u>2023</u>
<u>James River</u>	<u>Spink</u>	<u>Walleye</u>	<u>2023</u>
Shue Creek	Beadle	Black bullhead	1935
Snake Creek	Brown	Black bullhead	1935
Timber Creek	Spink	Black bullhead, largemouth bass, northern pike, yellow perch	1970
Big Sioux River	Minnehaha	Black bullhead, Black crappie, white crappie, channel catfish, smallmouth bass, largemouth bass, bluegill, walleye, northern pike, yellow perch	1996
Round Lake	Lake	Northern pike	1969
<u>Medicine Knoll Creek</u>	<u>Sully</u>	<u>Bluegill, largemouth bass</u>	<u>2019</u>
<u>Spring Creek</u>	<u>Campbell</u>	<u>Black bullhead, largemouth bass, yellow perch</u>	<u>1940</u>
<u>East Fork Vermillion River</u>	<u>McCook</u>	<u>Walleye, black crappie, yellow perch, bluegill, channel catfish, fathead minnow, largemouth bass, northern pike, white crappie</u>	<u>2017</u>

Notes:

¹ Stocking location may not be in a county crossed by the Project.

² Fish species stocked by SDGFP in named streams crossed by the Project per SDGFP stocking reports at: https://apps.sd.gov/GF56FisheriesReports/?_ga=2.236776577.1808269613.1640486355-1162596512.1638215578.

³ The most recent year that stocking was conducted by SDGFP for that waterbody.

Table 31: Surface Waterbodies in Project Counties that are Infested by Aquatic Invasive Organisms

WATERBODY	COUNTY	CURLY PONDWEED	EURASIAN MILFOIL	PLANTS ¹		FISH ¹				INVERTEBRATES ¹
				PURPLE LOOSESTRIFE	FLOWERING RUSH	SILVER CARP	BIGHEAD CARP	GRASS CARP	EUROPEAN RUDD	ZEBRA MUSSEL
James River	Brown	--	--	--	--	X	X	X	--	X
	Spink	--	--	--	--	X	X	X	--	X
	Beadle	--	--	--	--	X	X	X	--	X
East Fork Vermillion River	Kingsbury	--	--	--	--	X	X	--	--	--
	Miner	--	--	--	--	X	X	--	--	--
	Lake	--	--	--	--	X	X	--	--	--
	McCook	--	--	--	--	X	X	--	--	--
	Turner	--	--	--	--	X	X	--	--	--

Notes:

¹ Data from SDGFP (2023) Environmental Review Tool website at: <https://ert.gfp.sd.gov/content/map>; and South Dakota Aquatic Invasive species website at: <https://sdleastwanted.sd.gov/maps/default.aspx>.

Table 32: Existing Land Use for the Project (Acres)¹

LAND USE	PIPELINES		PUMP STATIONS		MLVS		LAUNCHER-RECEIVERS		ACCESS ROADS		ATWS		TOTAL	
	CONS. ²	OPER.	CONS. ²	OPER.	CONS. ²	OPER.	CONS. ²	OPER.	CONS. ²	OPER.	CONS. ²	OPER.	CONS. ²	OPER.
<u>Irrigated lands/water sources for organized rural water systems lands/Public use</u>	<u>0.4</u>	<u>0.4</u>	==	==	==	==	==	==	==	==	==	==	<u>0.4</u>	<u>0.4</u>
<u>Irrigated lands/water sources for organized rural water systems lands</u>	<u>2.5</u>	<u>2.2</u>	==	==	==	==	==	==	==	==	==	==	<u>2.5</u>	<u>2.2</u>
<u>Existing and potential extractive nonrenewable resources</u>	<u>0.7</u>	<u>0.2</u>	==	==	==	==	==	==	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>	==	<u>1.1</u>	<u>0.5</u>
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Noise Sensitive Land Use</u>	<u>16.3</u>	<u>9.6</u>	==	==	<u><0.1</u>	<u><0.1</u>	<u>0.2</u>	<u>0.2</u>	<u>6.5</u>	<u>5.6</u>	<u>1.4</u>	==	<u>24.4</u>	<u>15.4</u>
<u>Rural residences and farmsteads, family farms, and ranches / Residential / Public use / Noise Sensitive Land Use</u>	<u>119.7</u>	<u>60.2</u>	<u>1.6</u>	<u>1.6</u>	<u>0.4</u>	<u>0.4</u>	<u>0.3</u>	<u>0.3</u>	<u>2.6</u>	<u>1.2</u>	<u>13.9</u>	==	<u>138.5</u>	<u>63.7</u>
<u>Land used primarily for row and non-row crops in rotation</u>	<u>4244.1</u>	<u>2023.3</u>	<u>6.1</u>	<u>6.1</u>	<u>1.2</u>	<u>1.2</u>	<u>1.6</u>	<u>1.6</u>	<u>9.0</u>	<u>2.0</u>	<u>348.8</u>	==	<u>4610.8</u>	<u>2034.2</u>
<u>Pasturelands and rangelands / Haylands</u>	<u>721.9</u>	<u>366.0</u>	<u>1.2</u>	<u>1.2</u>	<u>0.3</u>	<u>0.3</u>	<u>1.0</u>	<u>1.0</u>	<u>4.4</u>	<u>0.7</u>	<u>107.5</u>	==	<u>836.3</u>	<u>369.2</u>
<u>Palustrine Emergent Wetlands (PEM)</u>	<u>200.7</u>	<u>137.5</u>	<u><0.1</u>	<u><0.1</u>	==	==	==	==	<u>1.3</u>	<u><0.1</u>	<u>1.2</u>	==	<u>203.2</u>	<u>137.5</u>
<u>Palustrine Forested Wetlands (PFO)</u>	<u>0.8</u>	<u>0.6</u>	==	==	==	==	==	==	==	==	==	==	<u>0.8</u>	<u>0.6</u>
<u>Palustrine Scrub/Shrub Wetlands (PSS)</u>	<u>0.8</u>	<u>0.5</u>	==	==	==	==	==	==	==	==	==	==	<u>0.8</u>	<u>0.5</u>
<u>Public Use</u>	<u>11.0</u>	<u>4.7</u>	==	==	==	==	<u><0.1</u>	<u><0.1</u>	<u>0.1</u>	<u>0.1</u>	<u>0.3</u>	==	<u>11.4</u>	<u>4.8</u>
<u>Undisturbed native grasslands</u>	<u>548.4</u>	<u>279.8</u>	==	==	<u>0.3</u>	<u>0.3</u>	<u><0.1</u>	<u><0.1</u>	<u>4.5</u>	<u>0.7</u>	<u>50.3</u>	==	<u>603.5</u>	<u>280.8</u>
Potential sources for irrigated lands	2.0	1.4	<0.1	<0.1	==	==	==	==	<0.1	<0.1	==	==	2.0	1.4
Potential sources for irrigated lands / Public Use	4.1	3.9	==	==	==	==	==	==	==	==	==	==	4.1	3.9
Public, commercial, and institutional use	0.2	<0.1	==	==	==	==	==	==	1.1	1.1	<0.1	==	1.3	1.1
TOTAL³	<u>5873.6</u>	<u>2890.2</u>	<u>8.9</u>	<u>8.9</u>	<u>2.2</u>	<u>2.2</u>	<u>3.1</u>	<u>3.1</u>	<u>29.9</u>	<u>11.7</u>	<u>523.6</u>	==	<u>6441.2</u>	<u>2916.1</u>

Notes:

¹Acreage required for construction includes both construction and operations. Pump stations, MLVs and launcher-receivers have the same footprint for construction and operations.

²Acres are rounded.

³Totals are rounded to the nearest tenth.

⁴Wetlands and Waterbodies totals are represented in Section 5.4.

Table 33: Local Land Use Control Permits Anticipated for the Project

COUNTY	PIPELINES	PUMP STATION	MLV	LAUNCHER-RECEIVER	ACCESS ROADS	PERMITS
Beadle	✓	✓	✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Brown	✓	✓	✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Clark	✓		✓		✓	Pipeline Construction Review
Codington	✓		✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Edmunds	✓		✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Hamlin	✓		✓		✓	Pipeline Construction Review
Hand	✓		✓		✓	Pipeline Construction Review
Hyde	✓		✓		✓	Pipeline Construction Review
Kingsbury	✓		✓		✓	Pipeline Construction Review; Building Permit; Zoning Application
Lake	✓		✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Lincoln	✓		✓		✓	Pipeline Construction Review
McCook	✓					Pipeline Construction Review
McPherson	✓	✓	✓		✓	Pipeline Construction Review; Building Permit; Zoning Application
Miner	✓		✓		✓	Pipeline Construction Review
Minnehaha	✓	✓	✓		✓	Pipeline Construction Review; Building Permit; Zoning Application
Spink	✓		✓	✓	✓	Pipeline Construction Review; Zoning Review; Building Permit
Sully	✓		✓	✓	✓	Pipeline Construction Review; Zoning Review/Application; Building Permit
Turner	✓					Pipeline Construction Review

Table 34: Impairment Status of Streams with Assigned Beneficial Uses that are Crossed by the Project

WATERBODY ¹	COUNTY	PIPELINE	MP	CROSSING METHOD ²	BENEFICIAL USES ³	IMPAIRMENT STATUS ⁴	IMPAIRED USE ⁵ (cause)
Redstone Creek	Kingsbury	SDM-104	<u>128.6</u>	WOC	6,8,9,10	--	--
James River	Spink	SDT-209	1.0	HDD	5,8,9,10	--	--
James River	Spink	SDM-105	<u>52.1</u>	HDD	5,8,9,10	--	--
James River SD-JA-R-JAMES_07	Beadle	SDT-207	<u>11.02</u>	HDD	1,5,8,9,10	<u>5 impaired without TMDL</u>	<u>1 (TDS)</u>
Snake Creek	Brown	SDM-105	<u>74.1</u>	WOC	6,8,9,10	--	--
	Brown	SDT-210	<u>9.0</u>	WOC	6,8,9,10	--	--
Timber Creek	Spink	SDM-105	<u>31.1</u>	WOC	6,8,9,10	--	--
<u>Foster Creek</u>	<u>Spink</u>	<u>SDM-105</u>	<u>15.1</u>	<u>WOC</u>	<u>6,8,9,10</u>	--	--
Big Sioux River SD-BS-R-BIG_SIOUX_02	Codington	SDT-208	<u>0.2, 0.7</u>	HDD	5,8,9,10	--	--
Big Sioux River SD-BS-R-BIG_SIOUX_14	Lincoln	SDM-104	<u>27.2</u>	HDD	5,7,8,9,10	<u>4A impaired with approved TMDL</u>	5 (TSS) <u>7, 8</u> (E. coli)
Brant Lake SD-BS-L-BRANT_01	Lake	SDT-206	<u>3.4</u>	HDD	4,7,8,9	1 all uses met	--

Notes:

¹ Table includes only named waterbodies crossed by the Project for which specific beneficial uses have been assigned; see Appendix 8 for other waterbodies.

² Crossing methods are WOC (west open cut) and HDD (horizontal directional drill).

³ Beneficial uses are those assigned by South Dakota Department of Agriculture and Natural Resources as indicated in the ADNR Surface Water Quality website at: <https://sdgis.sd.gov/portal/apps/MapSeries/index.html?appid=f3e56d2e55a34c65b7d78b07ef1e677e>

The codes are: (1) domestic water supply; (4) warmwater permanent fish life propagation; (5) warmwater semipermanent fish life propagation; (6) warmwater marginal fish life propagation; (7) immersion recreation; (8) Limited-contact recreation; (9) fish and wildlife propagation, recreation, and stock watering; (10) Irrigation; and (11) commerce and industry. TMDL is Total Maximum Daily Load.

⁴ Impaired status per SD DANR's Surface Water Quality website; -- means there is no data, or an assessment has not been made.

⁵ See footnote (3) for beneficial use codes; DO = dissolved oxygen, TDS = total dissolved solids, TSS = total suspended solids, E. coli = the bacterium *Escherichia coli*.

Table 35: South Dakota County Labor Force Crossed by the Project

COUNTY	LABOR FORCE	EMPLOYMENT	UNEMPLOYMENT	RATE
Beadle County	<u>9,439</u>	<u>9,260</u>	<u>179</u>	1.90%
Brown County	<u>20,196</u>	<u>19,791</u>	<u>405</u>	2.00%
Clark County	<u>2,061</u>	<u>2,020</u>	41	2.00%
Codington County	16, <u>425</u>	<u>16,133</u>	292	1.80%
Edmunds County	<u>2,011</u>	<u>1,969</u>	<u>42</u>	<u>2.10%</u>
Hamlin County	3, <u>742</u>	3, <u>679</u>	63	1.70%
Hand County	1,8 <u>57</u>	<u>1,831</u>	<u>26</u>	1.40%
Hyde County	<u>660</u>	<u>647</u>	<u>13</u>	2.00%
Kingsbury County	2,8 <u>40</u>	2,7 <u>85</u>	<u>55</u>	1.90%
Lake County	6, <u>918</u>	6,7 <u>83</u>	<u>135</u>	2.00%
Lincoln County	<u>39,085</u>	<u>38,477</u>	<u>608</u>	1.60%
McCook County	3, <u>220</u>	3,1 <u>68</u>	<u>52</u>	1.60%
McPherson County	<u>1,005</u>	<u>984</u>	<u>21</u>	<u>2.10%</u>
Miner County	1,2 <u>83</u>	1,2 <u>64</u>	19	1.50%
Minnehaha County	<u>121,397</u>	<u>119,307</u>	<u>2,090</u>	1.70%
Spink County	3, <u>055</u>	<u>2,992</u>	<u>63</u>	2.10%
Sully County	8 <u>34</u>	8 <u>21</u>	<u>13</u>	1.60%
Turner County	4, <u>905</u>	4,8 <u>17</u>	<u>88</u>	1.80%

Source:

Labor Market Information Center, South Dakota Department of Labor and Regulation, in cooperation with the U.S. Bureau of Labor Statistics, available at: <https://dlr.sd.gov/lmic/lbtables/county/f.aspx>. Accessed August 2023.

Table 36: Cultural Resources Recorded in the Environmental Survey Corridor

Site Number	Site Type	NRHP Recommendation	Management Recommendation	SHPO Concurrence
39CK2072	Railroad	Eligible	Avoided via Bore	Yes
39HD0128	Farmstead	Eligible	Avoidance by reroute	Yes
39HD0129	Stone Circle	Eligible	Avoided via HDD	Yes
39MP0015	Stone circle and cairn	Eligible	Avoidance by reroute pending	<u>Pending</u>
39MP0110	Stone circle and cairn	Eligible	Avoided via HDD <u>or reroute pending</u>	<u>Pending</u>
39MP0111	Stone circle	Eligible	Avoided via HDD <u>or reroute pending</u>	<u>Pending</u>
39BN0144	Stone circle and cairn	Eligible	Avoided via reroute	<u>Yes</u>
39CK2007	Railroad	Eligible	Avoided via bore	<u>Yes</u>
39ED2007	Railroad	Eligible	Avoided via bore	<u>Yes</u>
39HD0134	Stone circle and cairn	Eligible	Avoided via reroute	<u>Yes</u>
39HD0136	Stone circle	Eligible	Avoided via reroute	<u>Yes</u>
39HE0097	Stone circle and cairn	Eligible	Avoided via <u>HDD</u>	<u>Yes</u>
39HE0099	Stone circle	Eligible	Avoided via reroute	<u>Yes</u>
39LK2013	Railroad	Eligible	Avoided via <u>HDD</u>	<u>Yes</u>
39KB0056	Stone Alignment	Eligible	Avoided via reroute	<u>Yes</u>
39KB2013	Railroad	Eligible	Avoided via <u>HDD</u>	<u>Yes</u>
39MP0118	Stone circle	Eligible	Avoidance by reroute	<u>Yes</u>
39MP0119	Stone circle and cairn	Eligible	Avoided via HDD	<u>Yes</u>
39MP0123	Stone circle	Eligible	Avoided via reroute	<u>Yes</u>
39MP0134	Stone circle	Eligible	Avoided via reroute	<u>Yes</u>
39MH2014	Railroad	Eligible	Avoided via <u>HDD</u>	<u>Yes</u>
39CK0214	Farmstead	Not Eligible	No further work	<u>Yes</u>
39CK0021	Historic artifact scatter	Not Eligible	No further work	<u>Yes</u>

Table 36: Cultural Resources Recorded in the Environmental Survey Corridor

Site Number	Site Type	NRHP Recommendation	Management Recommendation	SHPO Concurrence
39HD0017	School foundation	Not Eligible	No further work	<u>Yes</u>
39KB0054	Farmstead	Not Eligible	No further work	<u>Yes</u>
39MN0036	Farmstead	Not Eligible	No further work	<u>Yes</u>
39LN0068	<u>Historic artifact scatter</u>	Not Eligible	No further work	<u>Yes</u>
39MH0192	Prehistoric artifact scatter	Not Eligible	No further work	<u>Yes</u>
39LK0058	Farmstead	Not Eligible	No further work	<u>Yes</u>
39BE0188	Historic depression	Not Eligible	No further work	Yes
39ED0066	Historic artifact scatter	Not Eligible	No further work	Yes
39LK0088	Prehistoric artifact scatter	Not Eligible	No further work	Yes
39MP0109	Prehistoric artifact scatter	Not Eligible	No further work	Yes
<u>39KB0055</u>	<u>Farmstead</u>	<u>Not Eligible</u>	<u>No further work</u>	<u>Yes</u>
<u>39SP0288</u>	<u>Prehistoric open camp</u>	<u>Eligible</u>	<u>Avoided via HDD</u>	<u>Yes</u>
<u>39LN0138</u>	<u>Historic well/cistern</u>	<u>Not Eligible</u>	<u>No further work</u>	<u>Yes</u>
<u>39KB2003</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Avoided via HDD</u>	<u>Yes</u>
<u>39MP2051</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Avoided via bore</u>	<u>Yes</u>
<u>CS4555MP005</u>	<u>Prehistoric open camp</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS4333SP001b</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>CS4333SP002</u>	<u>Multicomponent historic and prehistoric artifact scatter</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS4411CL001</u>	<u>Historic artifact scatter</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS6363BR001</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>38SP2003</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>CS6363MP001</u>	<u>Prehistoric Stone circle</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS6363MP002</u>	<u>Prehistoric artifact scatter</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>39SP2003</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>39MP2051</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>

Table 36: Cultural Resources Recorded in the Environmental Survey Corridor

Site Number	Site Type	NRHP Recommendation	Management Recommendation	SHPO Concurrence
<u>CS4555MP005</u>	<u>Prehistoric open camp</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS4333SP001b</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>CS4333SP001a</u>	<u>Historic artifact scatter</u>	<u>Pending</u>	<u>Pending</u>	<u>Pending</u>
<u>CS4333SP001b</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>
<u>CS6363LI001</u>	<u>Railroad</u>	<u>Eligible</u>	<u>Pending, avoided by HDD</u>	<u>Pending</u>

Table 37: Project Witnesses

Application Section	Application Subsections	Witness
1.0 Introduction	All Sections Section 1.8	Mr. James Powell Dr. Jon Schmidt
2.0 Project Description	All Sections Section 2.2 Section 2.1.1 Section 2.3.2 (abnormal operations/ERP) Section 2.2 and 2.3	Mr. James Powell/Erik Schovanec Mr. Alex Lange Dr. Jon Schmidt Mr. Rod Dillon Mr. Brigham McCown
3.0 Demand for Facility	All Sections	Mr. James Powell
4.0 Alternatives	All Sections	Dr. Jon Schmidt Mr. Erik Schovanec Mr. James Powell
5.0 Environmental Information and Impact on Physical Environment	All Sections	Dr. Jon Schmidt Mr. Erik Schovanec
6.0 Community Impact	All Sections All Sections	Mr. James Powell Dr. Jon Schmidt
7.0 Other Information	7.1 Monitoring of Impacts	Dr. Jon Schmidt Mr. Erik Schovanec
Appendices	1 and 2 1, 2 , 3, 4, 8 , 9, 10, and 12 3, 5-12 13	Mr. Alex Lange Mr. Erik Schovanec Dr. Jon Schmidt Mr. James Powell